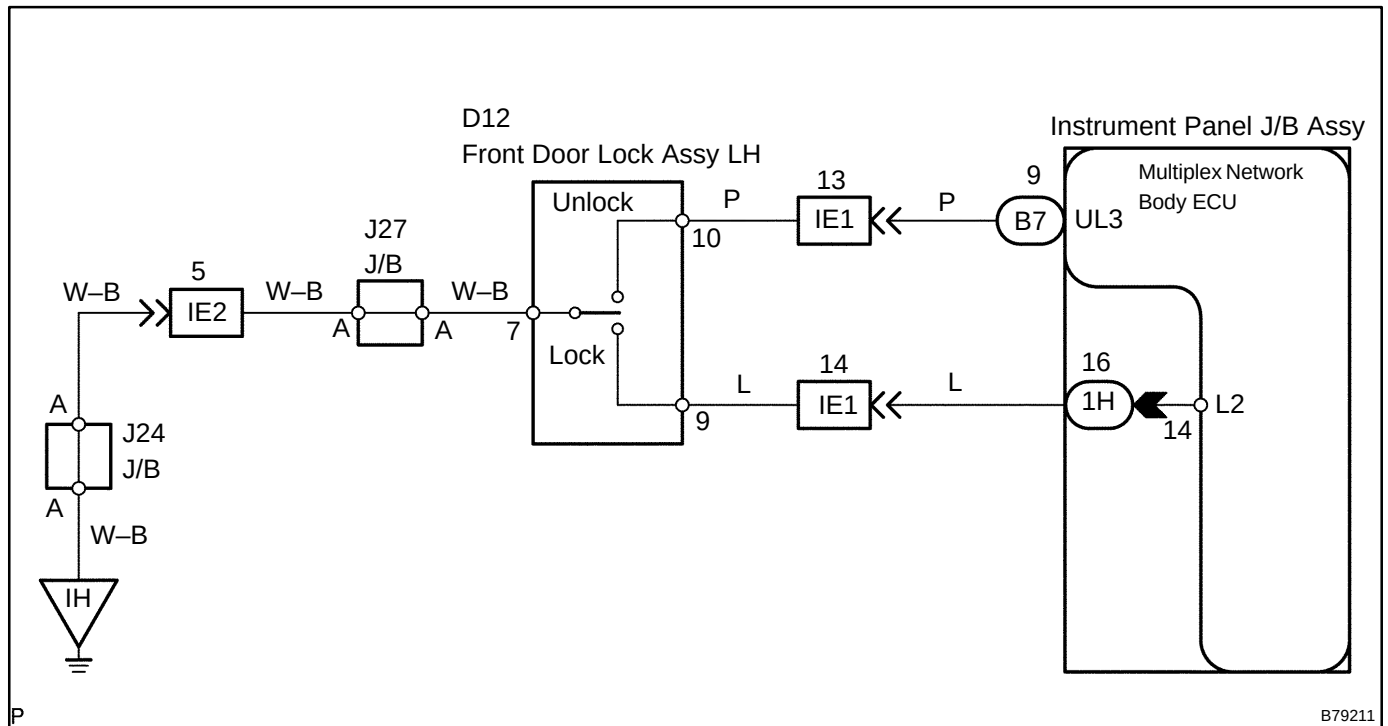


ALL DOORS LOCK/UNLOCK FUNCTIONS DO NOT OPERATE VIA DRIVER SIDE DOOR KEY CYLINDER

CIRCUIT DESCRIPTION

The instrument panel J/B Assy (multiplex network body ECU) receives switch signals from the door-key-linked lock/unlock switch and activates the door lock motor according to the signals.

WIRING DIAGRAM



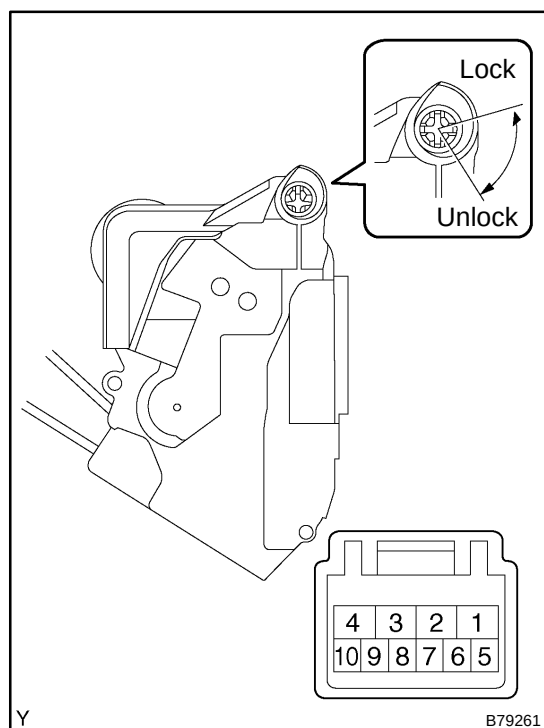
INSPECTION PROCEDURE

1 READ VALUE OF HAND-HELD TESTER (DOOR LOCK AND UNLOCK SWITCH)

- (a) Check the DATA LIST for proper functioning of the door lock and unlock switch.

Multiplex network body ECU:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
DOR KEY SW-LOCK	Driver door lock/unlock switch lock signal (key-linked-lock switch) /ON or OFF	ON: Driver side door key cylinder is turned to lock OFF: Driver side door key cylinder is not turned to lock	–
D DOR KEY SW-UN	Driver door lock/unlock switch unlock signal (key-linked-unlock switch) /ON or OFF	ON: Driver side door key cylinder is turned to unlock OFF: Driver side door key cylinder is not turned to unlock	–

OK: "ON" (door is locked/unlocked) appears on the screen.**NG****Go to step 2****OK****REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)****2 INSPECT FRONT DOOR LOCK ASSY LH (DOOR LOCK AND UNLOCK SWITCH)**

- (a) Measure the resistance of the door lock and unlock switch.

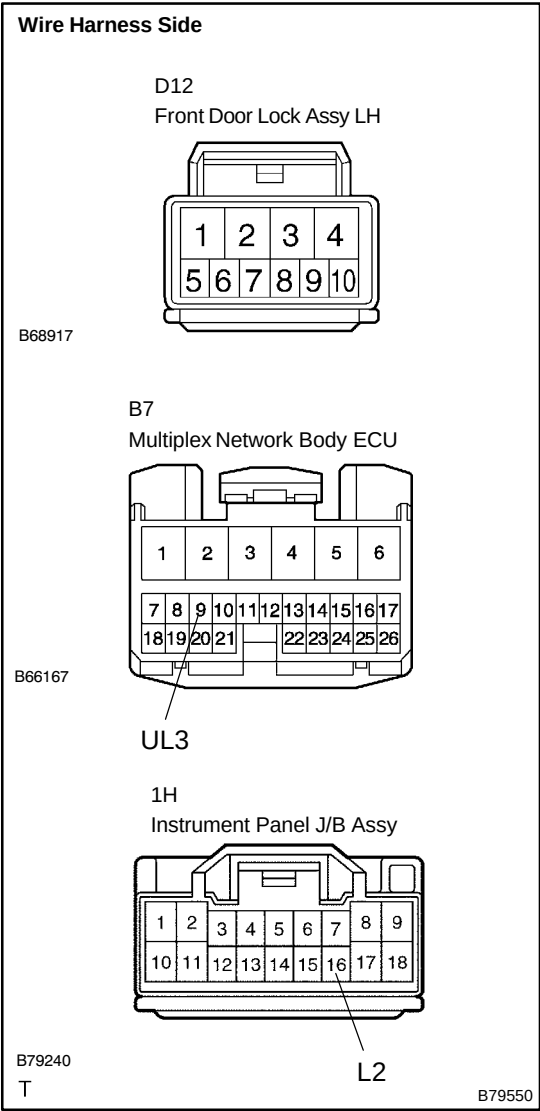
Standard:

Tester Connection	Switch Condition	Specified Condition
7 – 9	Lock	Below 1 Ω
7 – 9 7 – 10	OFF	10 k Ω or higher
7 – 10	Unlock	Below 1 Ω

NG**REPLACE FRONT DOOR LOCK ASSY LH****OK**

3

CHECK WIRE HARNESS (FRONT DOOR LOCK ASSY LH – MULTIPLEX NETWORK BODY ECU, INSTRUMENT PANEL J/B ASSY AND BODY GROUND)



- (a) Disconnect the D12 lock connector.
- (b) Disconnect the B7 ECU connector.
- (c) Disconnect the 1H J/B connector.
- (d) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
D12-9 – 1H-16 (L2)	Below 1 Ω
D12-10 – B7-9 (UL3)	Below 1 Ω
D12-7 – Body ground	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

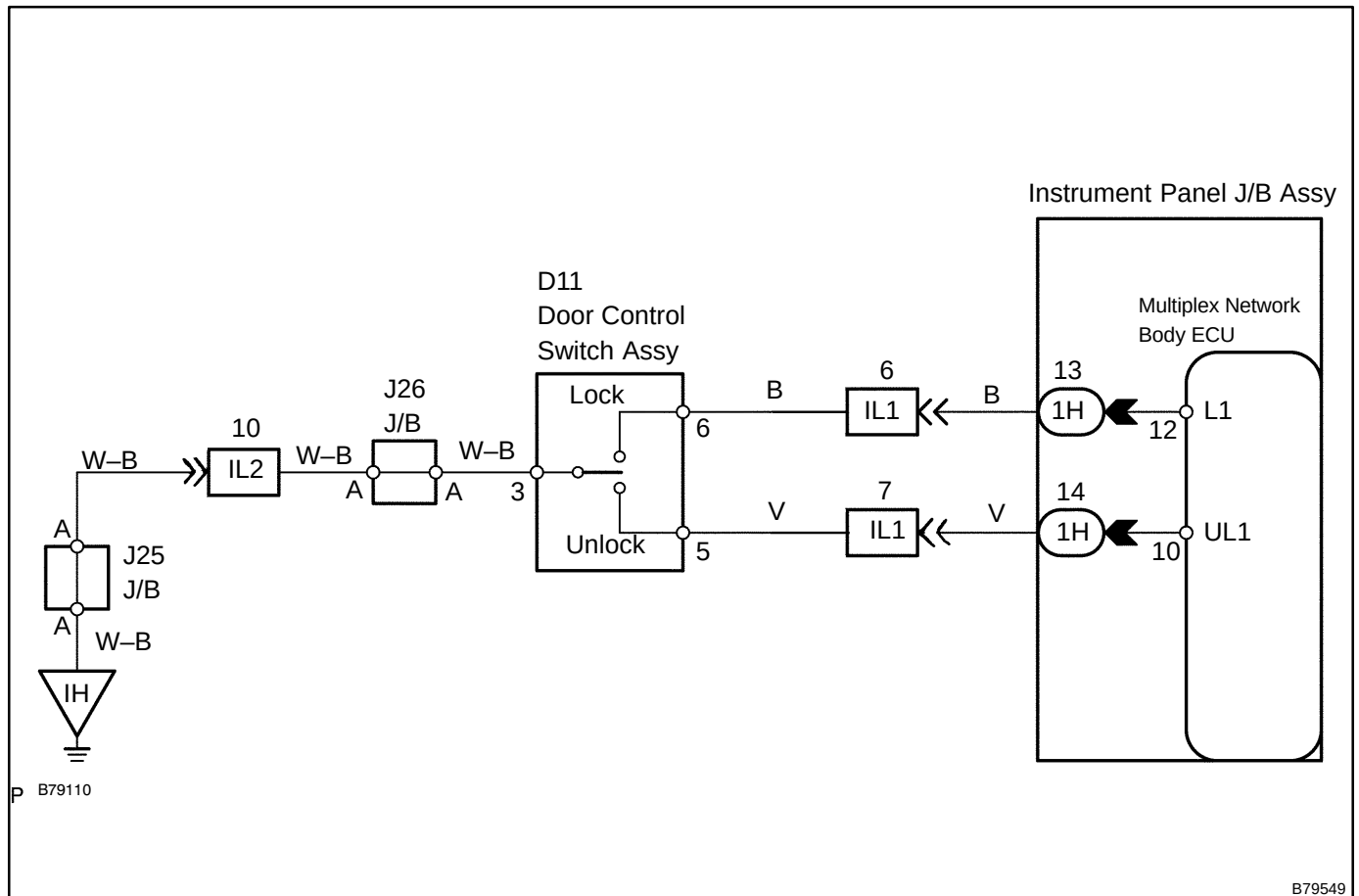
REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)

ALL DOORS LOCK/UNLOCK FUNCTIONS DO NOT OPERATE VIA DOOR CONTROL SWITCH

CIRCUIT DESCRIPTION

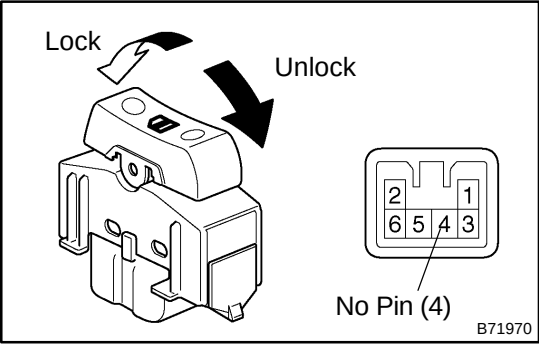
The instrument panel J/B Assy (multiplex network body ECU) receives switch signals from the door control switch and activates the door lock motors on each door according to the signals.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT DOOR CONTROL SWITCH ASSY



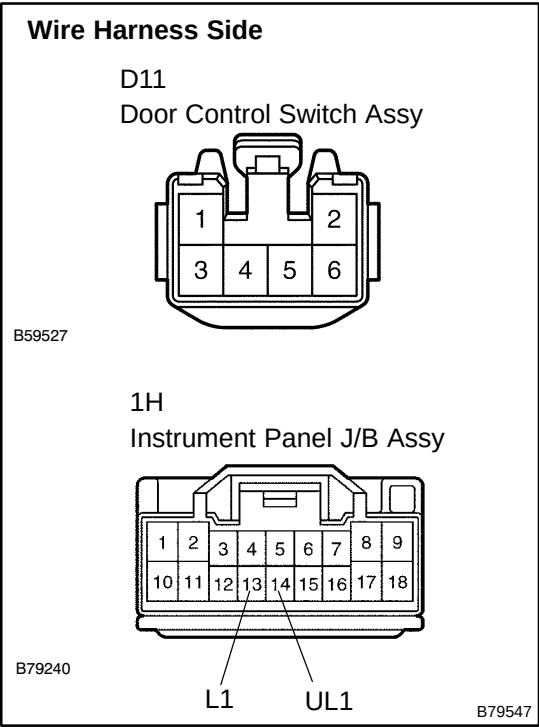
- (a) Measure the resistance of the switch.
Standard:

Tester Connection	Switch Condition	Specified Condition
3 – 6	Lock	Below 1 Ω
3 – 5 3 – 6	OFF	10 kΩ or higher
3 – 5	Unlock	Below 1 Ω

NG REPLACE DOOR CONTROL SWITCH ASSY

OK

2 CHECK WIRE HARNESS (DOOR CONTROL SWITCH ASSY – INSTRUMENT PANEL J/B ASSY AND BODY GROUND)



- (a) Disconnect the D11 switch and 1H J/B connectors.
(b) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
D11-6 – 1H-13 (L1)	Below 1 Ω
D11-5 – 1H-14 (UL1)	Below 1 Ω
D11-3 – Body ground	Below 1 Ω

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

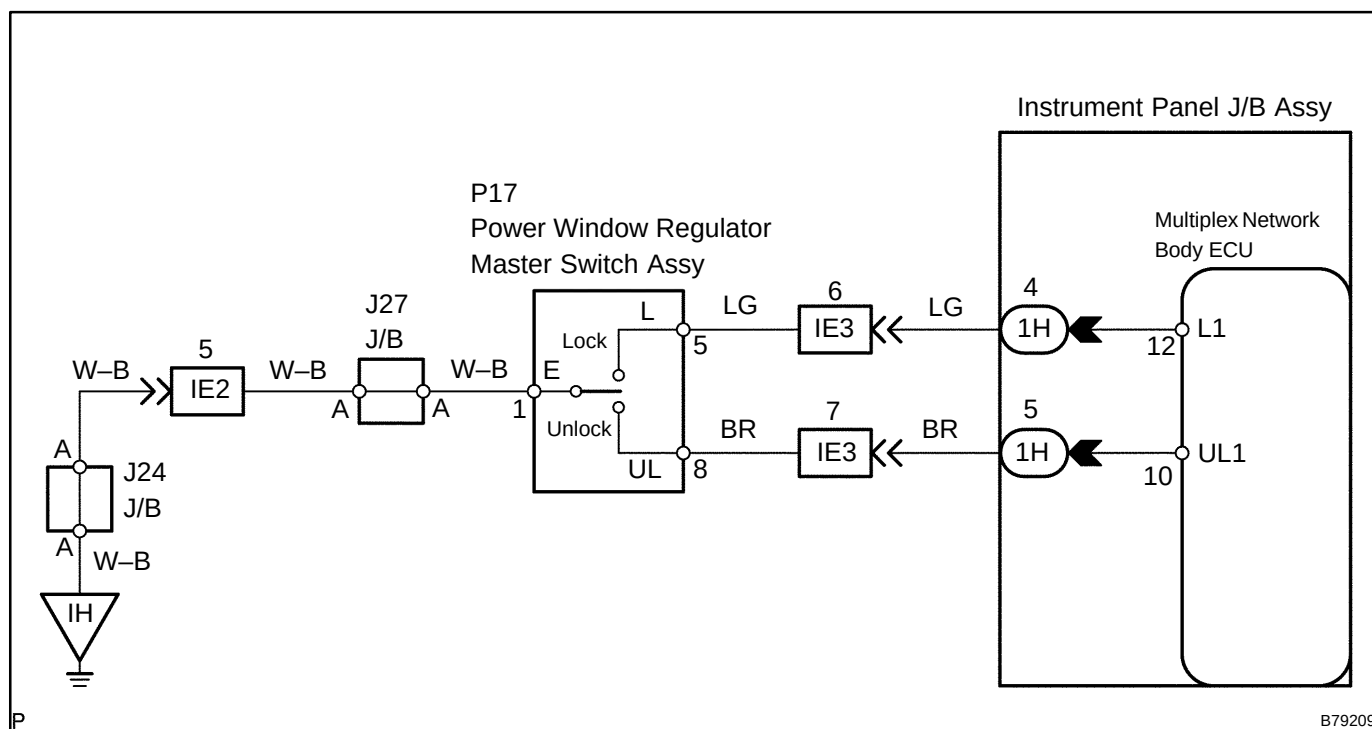
REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)

ALL DOORS LOCK/UNLOCK FUNCTIONS DO NOT OPERATE VIA MASTER SWITCH

CIRCUIT DESCRIPTION

The instrument panel J/B Assy (multiplex network body ECU) receives switch signals from the power window regulator master switch Assy and activates the door lock motors on each door according to the signal.

WIRING DIAGRAM



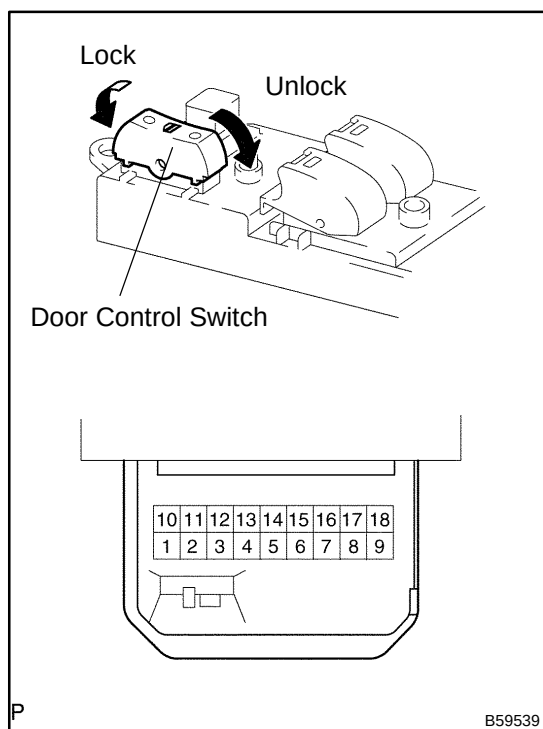
INSPECTION PROCEDURE

1 READ VALUE OF HAND-HELD TESTER (DOOR CONTROL SWITCH)

- (a) Check the DATA LIST for proper functioning of the door control switch.

Multiplex network body ECU:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
D/L SW-LOCK	Door control switch lock signal /ON or OFF	ON: Door control switch is in lock position OFF: Door control switch is not in lock position	–
D/L SW-UNLOCK	Door control switch unlock signal /ON or OFF	ON: Door control switch is in unlock position OFF: Door control switch is not in unlock position	–

OK: "ON" (door is locked/unlocked) appears on the screen.**NG****Go to step 2****OK****REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)****2 INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSY (DOOR CONTROL SWITCH)**

- (a) Measure the resistance of the door control switch.

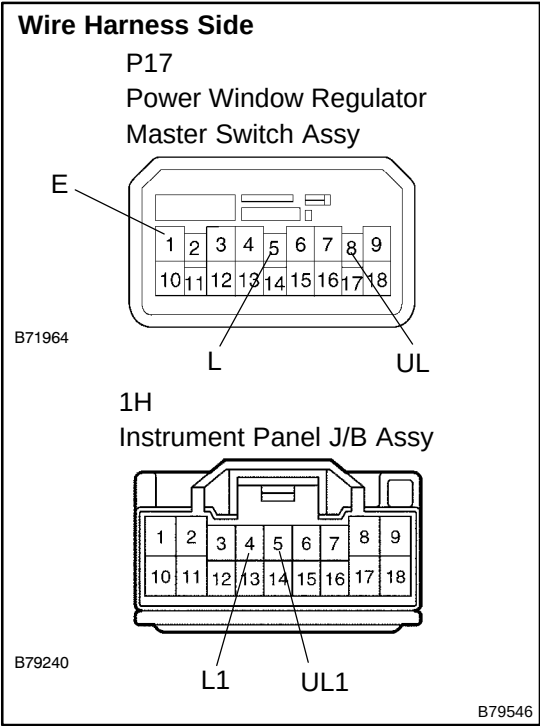
Standard:

Tester Connection	Door Lock Position	Specified Condition
1 – 5	Lock	Below 1 Ω
1 – 5 1 – 8	OFF	10 k Ω or higher
1 – 8	Unlock	Below 1 Ω

NG**REPLACE POWER WINDOW REGULATOR MASTER SWITCH ASSY****OK**

3

CHECK WIRE HARNESS (POWER WINDOW REGULATOR MASTER SWITCH ASSY (DOOR CONTROL SWITCH) – INSTRUMENT PANEL J/B ASSY AND BODY GROUND)



- (a) Disconnect the P17 switch and 1H J/B connectors.
- (b) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
P17-5 (L) – 1H-4 (L1)	Below 1 Ω
P17-8 (UL) – 1H-5 (UL1)	Below 1 Ω
P17-1 (E) – Body ground	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)

DTC	B1241	BODY ECU SWITCH CIRCUIT DIAGNOSIS
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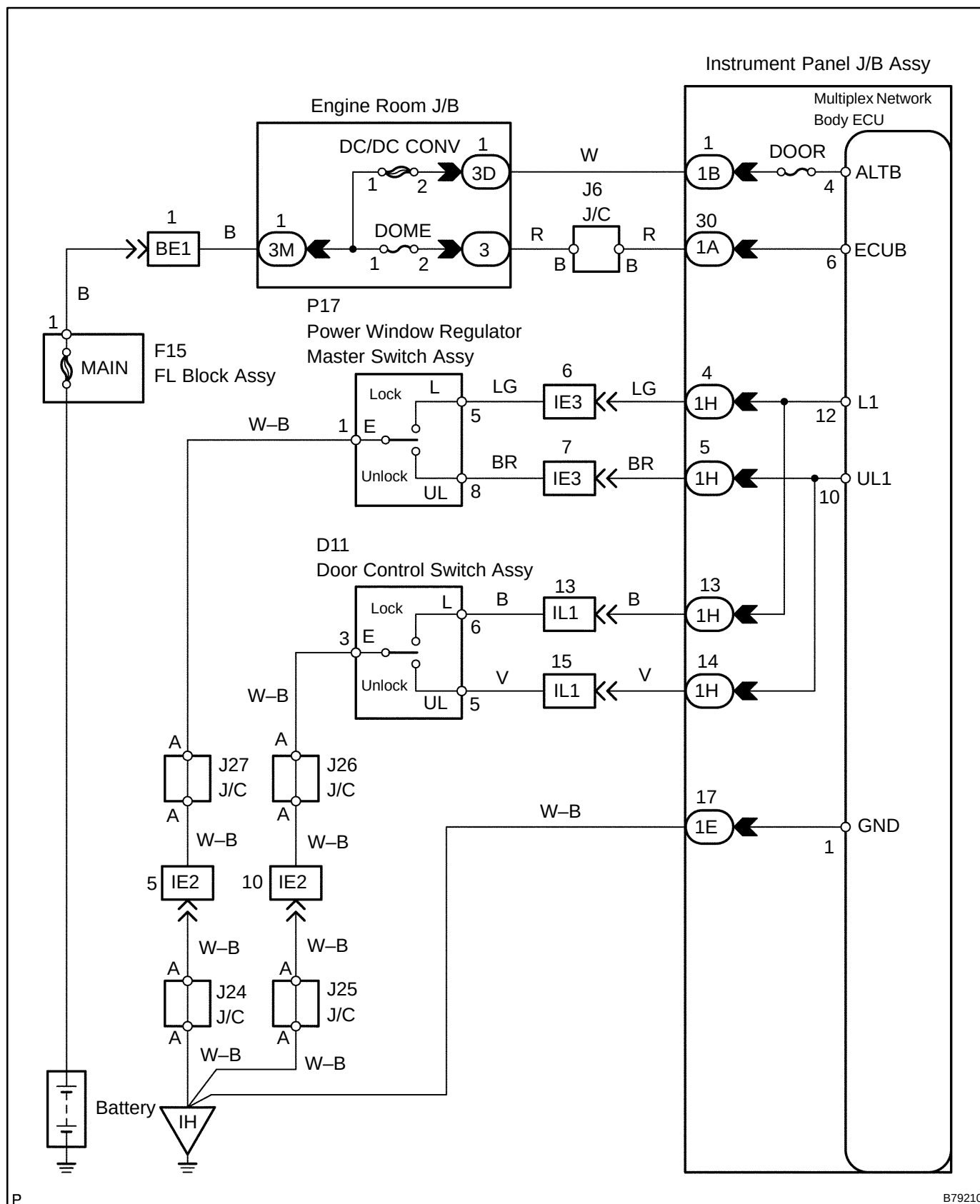
CIRCUIT DESCRIPTION

DTC B1241 notifies how the door control switches on the master switch assembly and passenger's door work.

If this DTC is not output when one of the switches is operated, switch contact is faulty. If this DTC is output when neither switch is operated, one of the switches is in the lock/unlock position (ON) or stuck. When a malfunction is detected in these switches, inspect each switch. Then, replace the malfunctioning switch if necessary. If no malfunction is detected in these switches, check the wire harness and body ECU.

DTC No.	DTC Detecting Condition	Trouble Area
B1241	• Door control switch on master switch assembly is in lock/unlock position (ON) or stuck • Door control switch on passenger's door is in lock/unlock position (ON) or stuck	• Power window regulator master switch assy • Door control switch assy • Instrument panel J/B assy (Multiplex network body ECU) • Wire harness

WIRING DIAGRAM



P

B79210

INSPECTION PROCEDURE**1 INSPECT FUSE (DOOR)**

- (a) Remove the DOOR fuse from the instrument panel J/B.
(b) Measure the resistance.

Standard: Below 1 Ω

NG**REPLACE FUSE****OK****2 READ VALUE OF HAND-HELD TESTER (DOOR CONTROL SWITCH)**

- (a) Check the DATA LIST for proper functioning of the door control switch.

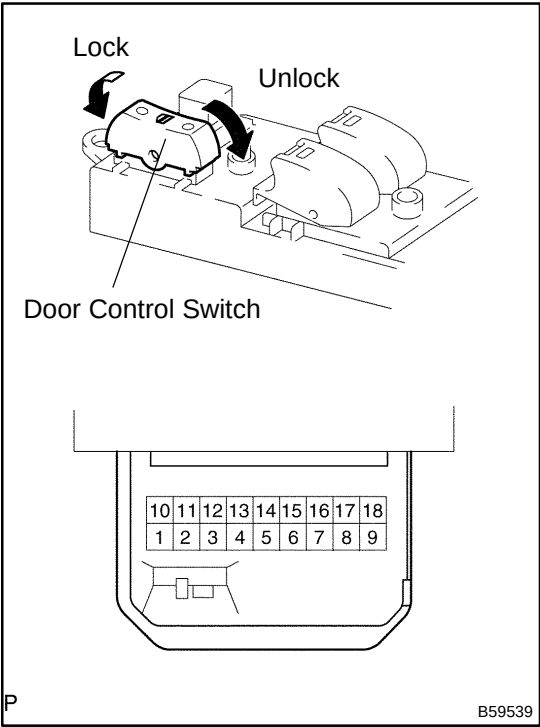
Multiplex network body ECU:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
D/L SW-LOCK	Door control switch lock signal /ON or OFF	ON: Door control switch is in the LOCK position OFF: Door control switch is not in the LOCK position	–
D/L SW-UNLOCK	Door control switch unlock signal /ON or OFF	ON: Door control switch is in the UNLOCK position OFF: Door control switch is not in the UNLOCK position	–

OK: "ON" (Door is locked/unlocked) appears on the screen.

NG**Go to step 3****OK****Go to step 5**

3 INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSY (DOOR CONTROL SWITCH)



(a) Measure the resistance of the door control switch.

Standard:

Tester Connection	Door Lock Condition	Specified Condition
1 – 5	Lock	Below 1 Ω
1 – 5 1 – 8	OFF	10 k Ω or higher
1 – 8	Unlock	Below 1 Ω

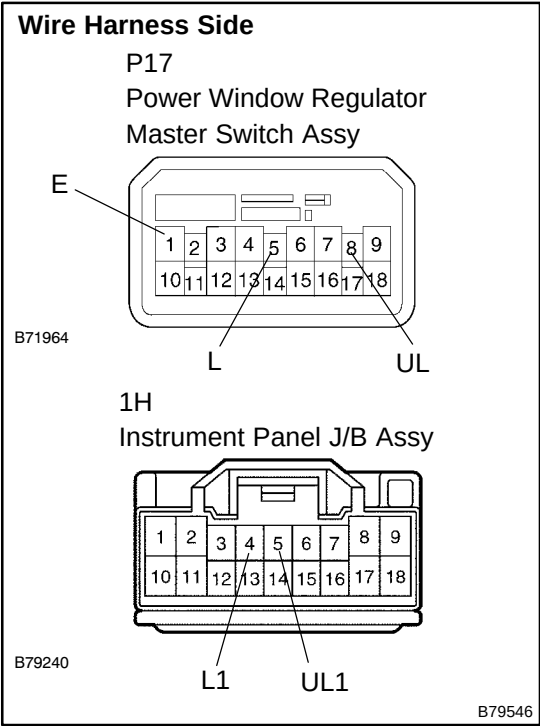
NG

REPLACE POWER WINDOW REGULATOR MASTER SWITCH ASSY

OK

4

CHECK WIRE HARNESS (POWER WINDOW REGULATOR MASTER SWITCH ASSY (DOOR CONTROL SWITCH) – INSTRUMENT PANEL J/B ASSY AND BODY GROUND)



- (a) Disconnect the P17 switch and 1H J/B connectors.
- (b) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
P17-5 (L) – 1H-4 (L1)	Below 1 Ω
P17-8 (UL) – 1H-5 (UL1)	Below 1 Ω
P17-1 (E) – Body ground	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

5

CHECK DOOR CONTROL SWITCH ASSY

- (a) Press the lock switch on the passenger's side door control switch and check that all the doors lock. Press the unlock switch on the passenger's side door control switch and check that all the doors unlock.

OK: All doors lock/unlock when lock/unlock switches are pressed.

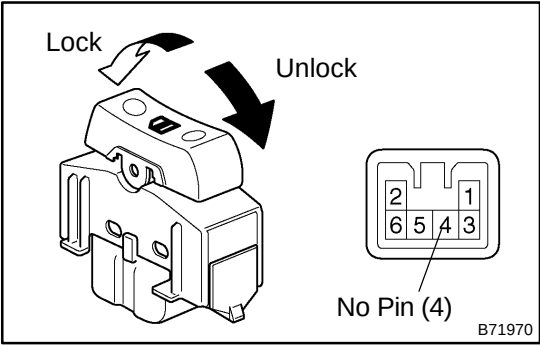
NG

Go to step 6

OK

Go to step 8

6 INSPECT DOOR CONTROL SWITCH ASSY



(a) Measure the resistance of the switch.

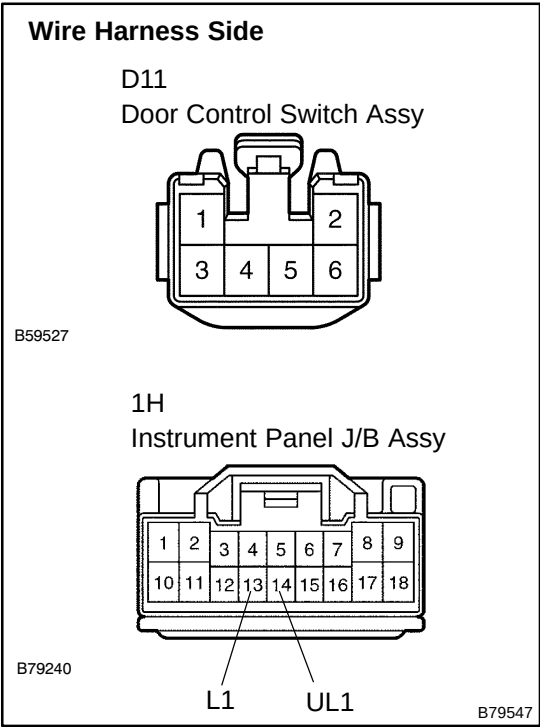
Standard:

Tester Connection	Door Lock Condition	Specified Condition
3 – 6	Lock	Below 1 Ω
3 – 5 3 – 6	OFF	10 k Ω or higher
3 – 5	Unlock	Below 1 Ω

NG REPLACE DOOR CONTROL SWITCH ASSY

OK

7 CHECK WIRE HARNESS (DOOR CONTROL SWITCH ASSY – INSTRUMENT PANEL J/B ASSY AND BODY GROUND)



- (a) Disconnect the D11 switch and 1H J/B connectors.
(b) Measure the resistance of the wire harness side connectors.

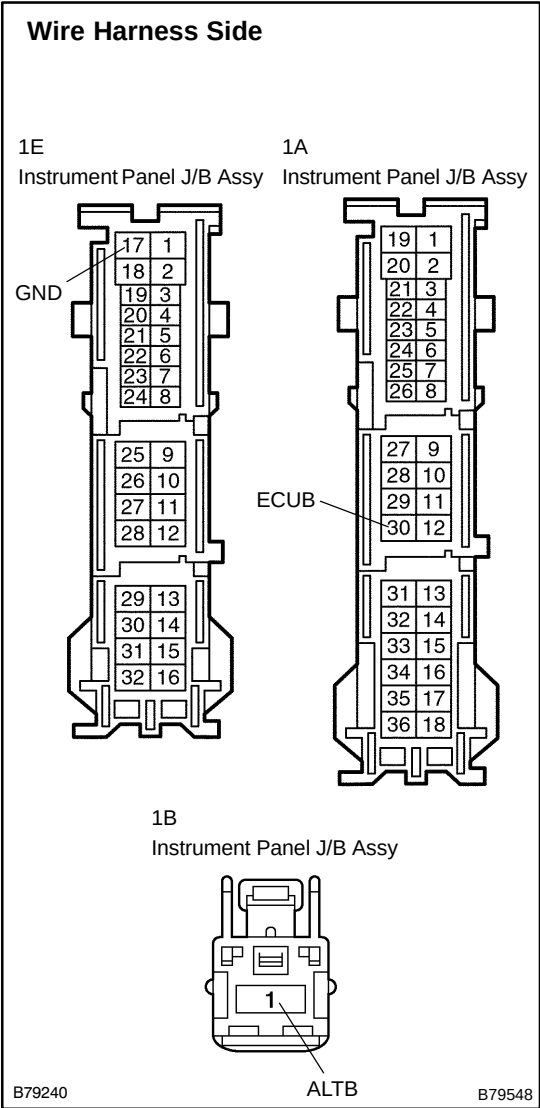
Standard:

Tester Connection	Specified Condition
D11-6 – 1H-13 (L1)	Below 1 Ω
D11-5 – 1H-14 (UL1)	Below 1 Ω
D11-3 – Body ground	Below 1 Ω

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

8 CHECK WIRE HARNESS (INTRUMENT PANEL J/B ASSY – BODY GROUND)



- (a) Disconnect the 1A, 1B and 1E J/B connectors.
- (b) Measure the resistance and voltage of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
1A-30 (ECUB) – Body ground	10 to 14 V
1B-1 (ALTB) – Body ground	10 to 14 V
1E-17 (GND) – Body ground	Below 1 Ω

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)

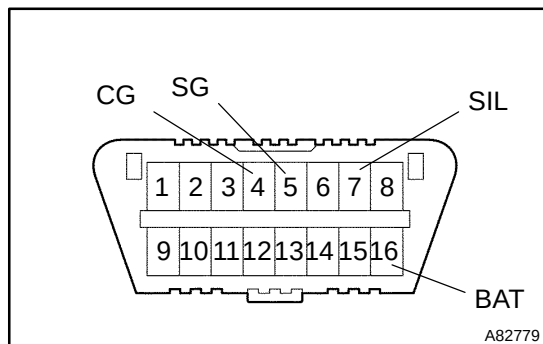
cardiagn.com

DIAGNOSIS SYSTEM

1. DESCRIPTION

The multiplex network body ECU controls the function of the power door lock control system on the vehicle. Data of the power door lock control system and the Diagnostic Trouble Code (DTC) can be read in the Data Link Connector 3 (DLC3) of the vehicle.

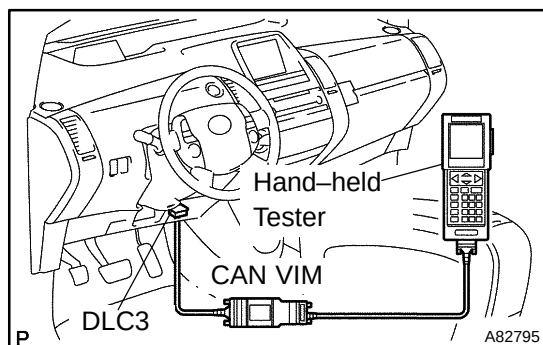
When the system seems to be malfunctioning, use the hand-held tester (with CAN VIN) to check for a malfunction and perform repairs.



2. CHECK DLC3

The vehicle's ECU uses the ISO 15765-4 for communication protocol. The terminal arrangement of the DLC3 complies with ISO 15031-03 and matches the ISO 15765-4 format.

Symbol	Terminal No.	Name	Reference terminal	Result	Condition
SIL	7	Bus "+" line	5 – Signal ground	Pulse generation	During transmission
CG	4	Chassis ground	Body ground	1 Ω or less	Always
SG	5	Signal ground	Body ground	1 Ω or less	Always
BAT	16	Battery positive	Body ground	9 to 14 V	Always



HINT:

Connect the cable of the hand-held tester (with CAN VIN) to the DLC3, turn the power switch ON (IG) and attempt to use the tester. If the screen displays UNABLE TO CONNECT TO VEHICLE, a problem exists in the vehicle side or the tester side. If communication is normal when the hand-held tester is connected to another vehicle, inspect the DLC3 on the original vehicle.

If communication is still impossible when the tester is connected to another vehicle, the problem is probably in the tester itself. Consult the Service Department listed in the tester's instruction manual.

3. INSPECT BATTERY VOLTAGE

Standard: 11 to 14 V

If voltage is below 11 V, recharge the battery before proceeding.

DATA LIST/ACTIVE TEST

1. DATA LIST

HINT:

Using the hand-held tester DATA LIST allows switch, sensor, actuator and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to shorten labor time.

- Connect the hand-held tester (with CAN VIN) to the DLC3.
- Turn the power switch ON (IG).
- Read the DATA LIST according to the display on the tester.

Multiplex network body ECU:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
TRNK/B DOR OPEN	Luggage compartment door open judgment /PROHIBT or PERMIT	PROHIBT: Luggage compartment door opening is impossible PERMIT: Luggage compartment door opening is possible	–
D DOR CTY SW	Driver side door courtesy switch signal /ON or OFF	ON: Driver side door is open OFF: Driver side door is closed	–
P LOCK POS SW	Passenger side door lock position switch signal /ON or OFF	ON: Passenger side door lock is in unlocked position OFF: Passenger side door lock is in locked position	–
Rr DOR CTY SW	Rear door courtesy switch signal /ON or OFF	ON: Either right or left rear door is open OFF: Both right and left rear doors are closed	–
Rr LOCK POS SW	Rear door lock position switch signal /ON or OFF	ON: Rear door lock is in unlocked position OFF: Rear door lock is in locked position	–
B DOR OPEN SW	Luggage compartment door opener switch signal /ON or OFF	ON: Luggage compartment door opener switch is pushed OFF: Luggage compartment door opener switch is not pushed	–
D LOCK POS SW	Driver side door lock position switch signal /ON or OFF	ON: Driver side door lock is in unlock position OFF: Driver side door lock is in lock position	–
D/L SW-LOCK	Door control switch lock signal /ON or OFF	ON: Door control switch is in the lock position OFF: Door control switch is not in the lock position	–
D/L SW-UNLOCK	Door control switch unlock signal /ON or OFF	ON: Door control switch is in the unlock position OFF: Door control switch is not in the unlock position	–
DOR KEY SW-LOCK	Driver door lock/unlock switch lock signal (key-linked-lock switch) /ON or OFF	ON: Driver side door key cylinder is turned to lock position OFF: Driver side door key cylinder is not turned to lock position	–
D DOR KEY SW-UN	Driver door lock/unlock switch unlock signal (key-linked-unlock switch) /ON or OFF	ON: Driver side door key cylinder is turned to unlock position OFF: Driver side door key cylinder is not turned to unlock position	–

2. ACTIVE TEST

HINT:

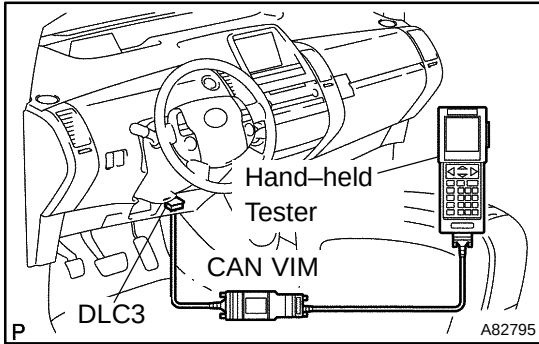
Performing the hand-held tester ACTIVE TEST allows relay, VSV actuator and other items to be operated without removing any parts. Performing the ACTIVE TEST early in troubleshooting is one way to shorten labor time. The DATA LIST can be displayed during the ACTIVE TEST.

- (a) Connect the hand-held tester (with CAN VIN) to the DLC3.
- (b) Turn the power switch ON (IG).
- (c) Perform the ACTIVE TEST according to the display on the tester.

Multiplex network body ECU:

Item	Test Details	Diagnostic Note
DOOR LOCK	Operate door lock motor for all doors LOCK/UNLOCK	All doors are closed

DTC CHECK/CLEAR



1. CHECK DTC

- Connect the hand-held tester (with CAN VIN) to the Controller Area Network Vehicle Interface Module (CAN VIM). Then connect the CAN VIN to the DLC3.
- Turn the power switch ON (IG).
- Read DTCs by following the prompts on the tester screen.

HINT:

Refer to the hand-held tester operator's manual for further details.

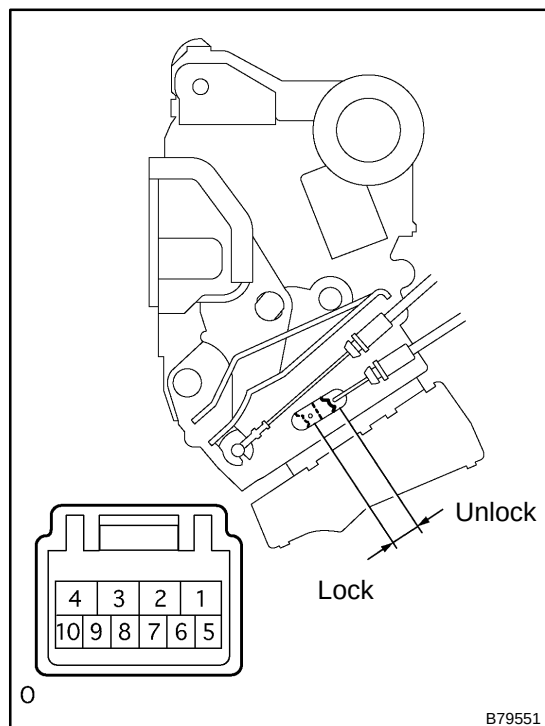
2. CLEAR DTC

- Connect the hand-held tester (with CAN VIN) to the DTC.
- Turn the power switch ON (IG).
- Erase the DTCs following the prompts on the tester screen.

HINT:

Refer to the hand-held tester operator's manual for further details.

INSPECTION



1. INSPECT FRONT DOOR LOCK ASSY LH

- (a) Apply battery voltage to the door lock and check operation of the door lock motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

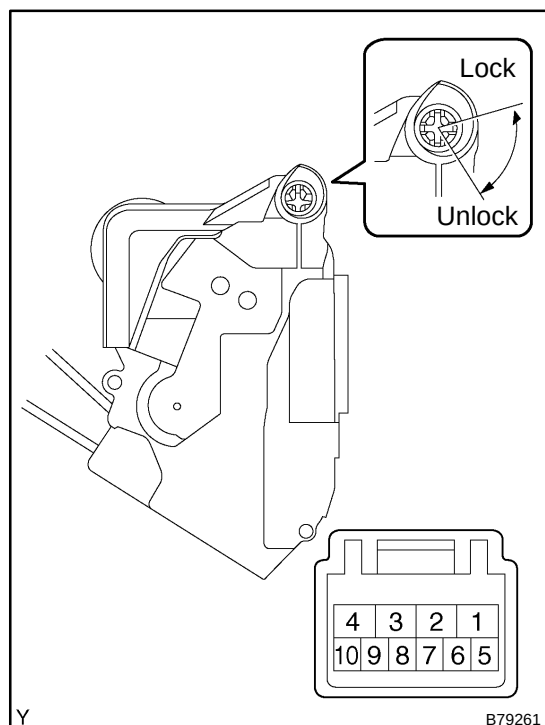
If the result is not as specified, replace the door lock assy.

- (b) Measure the resistance of the position switch.

Standard:

Tester Connection	Switch Position	Specified Condition
7 – 8	Lock	10 kΩ or higher
7 – 8	Unlock	Below 1 Ω

If the result is not as specified, replace the door lock assy.

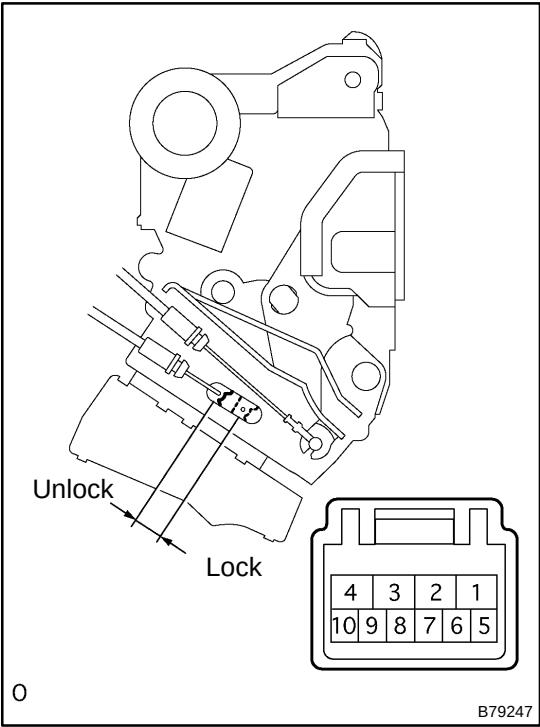


- (c) Measure the resistance of the door lock and unlock switch.

Standard:

Tester Connection	Switch Position	Specified Condition
7 – 9	Lock	Below 1 Ω
7 – 9, 7 – 10	OFF	10 kΩ or higher
7 – 10	Unlock	Below 1 Ω

If the result is not as specified, replace the door lock assy.



2. INSPECT FRONT DOOR LOCK ASSY RH

- (a) Apply battery voltage to the door lock and check operation of the door lock motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

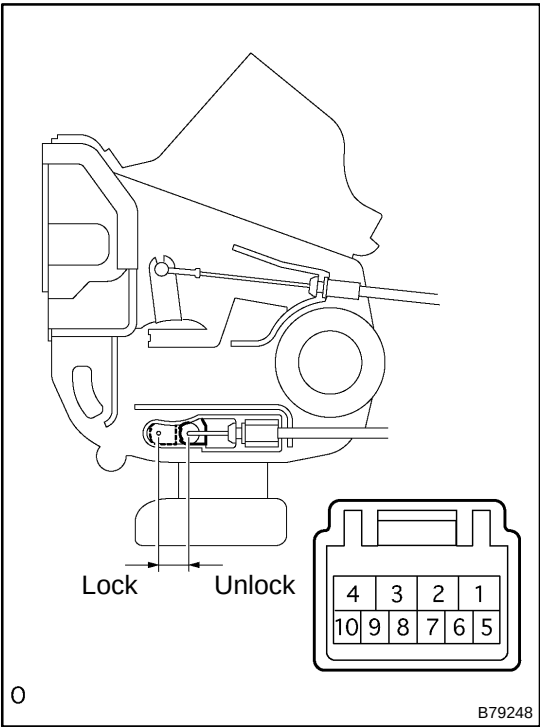
If the result is not as specified, replace the door lock assy.

- (b) Measure the resistance of the position switch.

Standard:

Tester Connection	Switch Condition	Specified Condition
7 – 8	Lock	10 kΩ or higher
7 – 8	Unlock	Below 1 Ω

If the result is not as specified, replace the door lock assy.



3. INSPECT REAR DOOR LOCK ASSY LH

- (a) Apply battery voltage to the door lock and check operation of the door lock motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

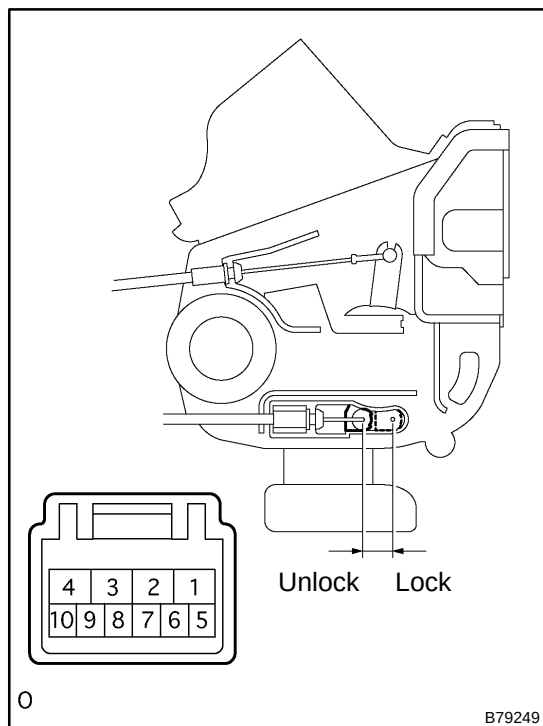
If the result is not as specified, replace the door lock assy.

- (b) Measure the resistance of the position switch.

Standard:

Tester Connection	Switch Condition	Specified Condition
6 – 9	Lock	10 kΩ or higher
6 – 9	Unlock	Below 1 Ω

If the result is not as specified, replace the door lock assy.



4. INSPECT REAR DOOR LOCK ASSY RH

- (a) Apply battery voltage to the door lock and check operation of the door lock motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

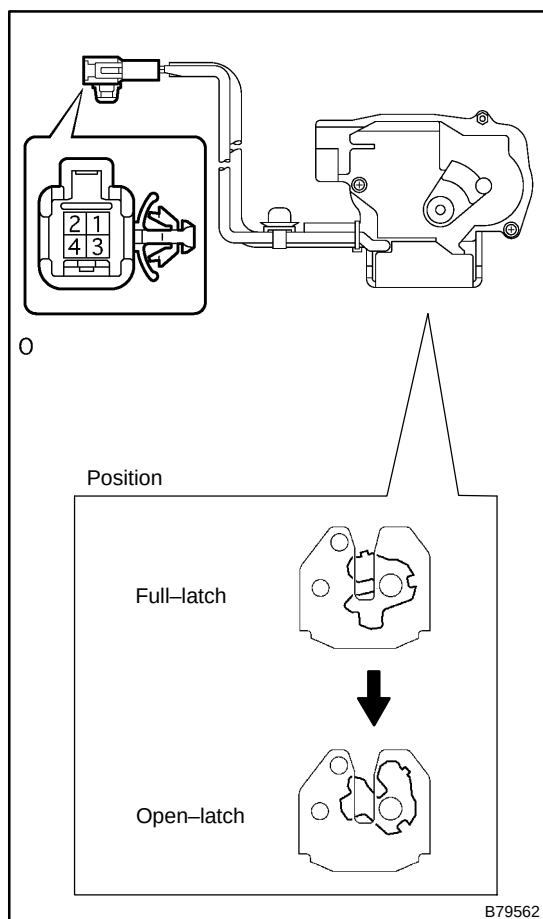
If the result is not as specified, replace the door lock assy.

- (b) Measure the resistance of the position switch.

Standard:

Tester Connection	Switch Condition	Specified Condition
6 – 9	Lock	10 kΩ or higher
6 – 9	Unlock	Below 1 Ω

If the result is not as specified, replace the door lock assy.



5. INSPECT LUGGAGE COMPARTMENT DOOR LOCK ASSY

- (a) Check operation of the door lock.

- (1) Using a screwdriver, move the latch to the full-latch position.
- (2) Apply battery voltage to the door lock and check operation of the latch.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Latch turns to open-latch position

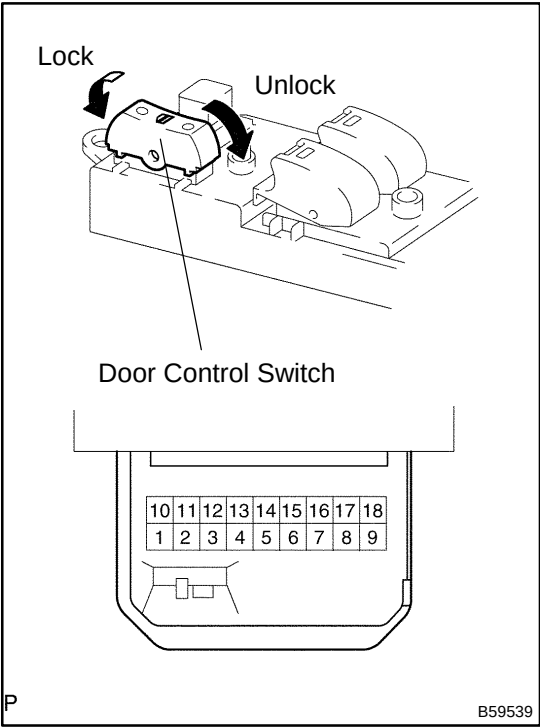
If the result is not as specified, replace the door lock assy.

- (b) Measure the courtesy switch resistance.

Standard:

Tester Connection	Switch Condition	Specified Condition
1 – 2	Open (ON)	Below 1 Ω
1 – 2	Full (OFF)	10 kΩ or higher

If the result is not as specified, replace the door lock assy.



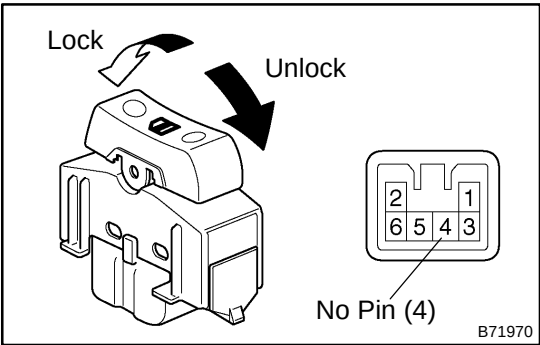
6. INSPECT POWER WINDOW REGULATOR MASTER SWITCH ASSY

- (a) Measure the resistance of the door control switch.

Standard:

Tester Connection	Switch Condition	Specified Condition
1 – 5	Lock	Below 1 Ω
1 – 5, 1 – 8	OFF	10 k Ω or higher
1 – 8	Unlock	Below 1 Ω

If the result is not as specified, replace the switch assy.



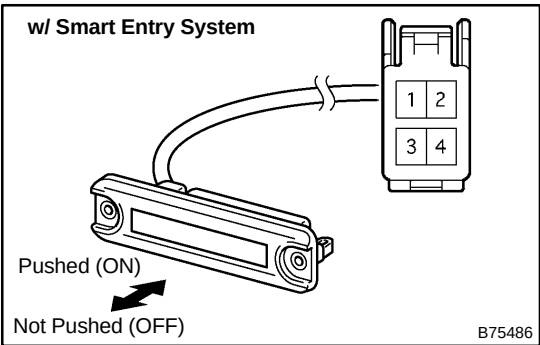
7. INSPECT DOOR CONTROL SWITCH ASSY

- (a) Measure the resistance of the door control switch.

Standard:

Tester Connection	Switch Condition	Specified Condition
3 – 6	Lock	Below 1 Ω
3 – 5, 3 – 6	OFF	10 k Ω or higher
3 – 5	Unlock	Below 1 Ω

If the result is not as specified, replace the switch assy.



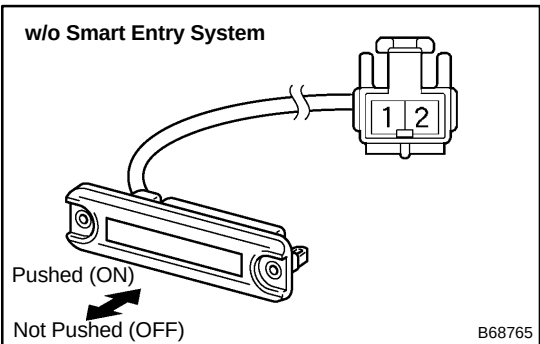
8. INSPECT LUGGAGE COMPARTMENT DOOR OPENER SWITCH ASSY

- (a) Measure the resistance of the switch.

Standard:

Tester Connection	Switch Condition	Specified Condition
1 – 2	Pushed (ON)	Below 1 Ω
1 – 2	Not pushed (OFF)	10 k Ω or higher

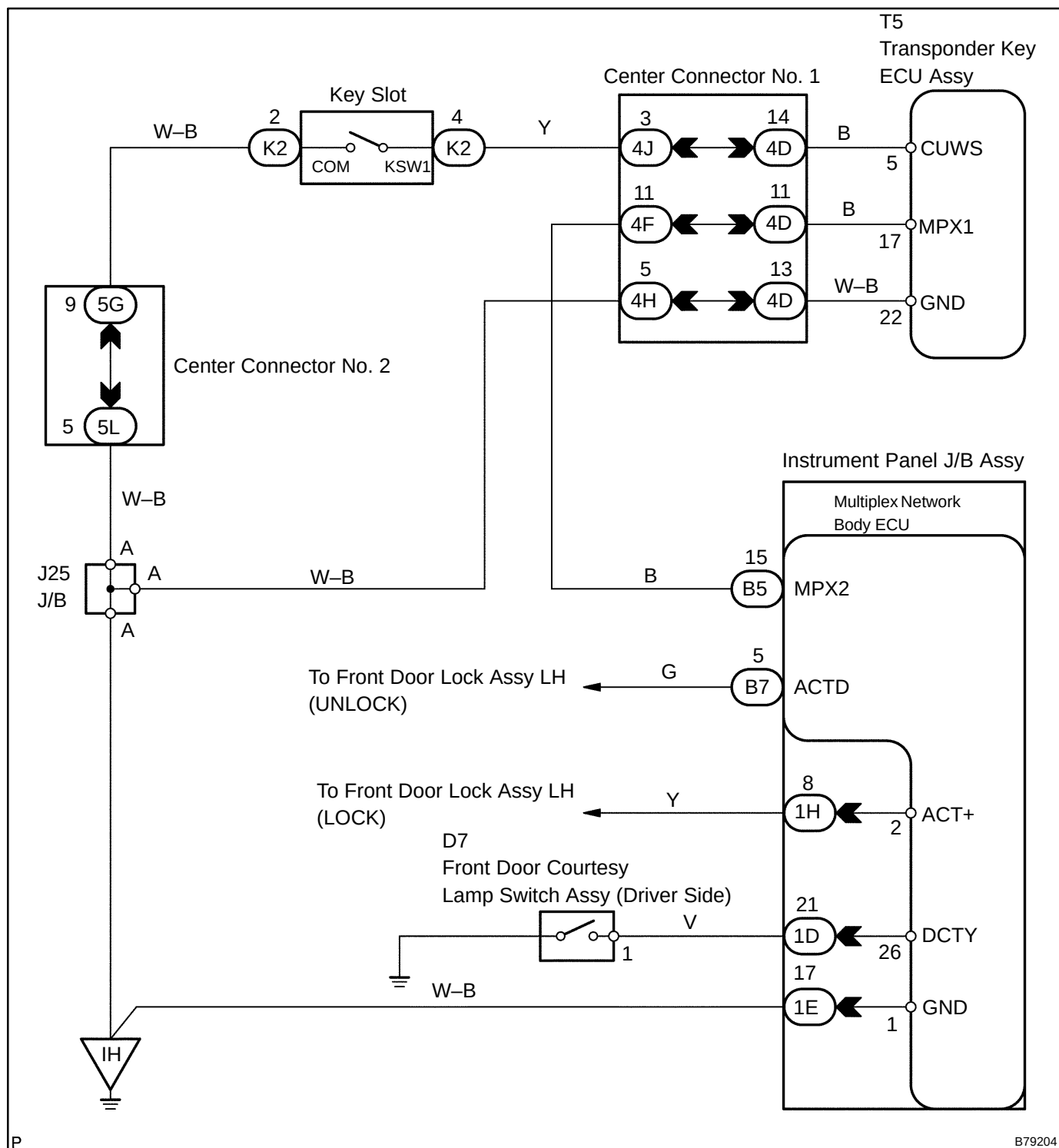
If the result is not as specified, replace the switch assy.



KEY LOCK-IN PREVENTION FUNCTION DOES NOT WORK PROPERLY (MANUAL OPERATION AND KEY-LINKED LOCK ARE ACTIVATED)

CIRCUIT DESCRIPTION

To prevent the key from being locked in the vehicle, the door control relay assembly prevents doors from being locked by monitoring two switches: 1) the unlock warning switch, which turns ON when the key is inserted into ignition key cylinder; and 2) the driver side courtesy lamp switch, which turns ON when the driver side door is opened.



INSPECTION PROCEDURE

1 INSPECT COMMUNICATION FUNCTION OF LARGE-SCALE MULTIPLEX COMMUNICATION SYSTEM (BEAN)

- (a) Use the hand-held tester to check for normal function of the multiplex communication system.
- (1) (ECU unconnected, communication line malfunctioning) Without DTC B1200, B1214, B1215 or B1294 outputs, proceed to A.
 - (2) (ECU unconnected, communication line malfunctioning) With DTC B1200, B1214, B1215 or B1294 outputs, proceed to B.

B

Go to MULTIPLEX COMMUNICATION SYSTEM
(See page 05-2558)

A**2 READ VALUE OF HAND-HELD TESTER**

- (a) Check the DATA LIST for proper function of the driver side door courtesy switch.

Multiplex network body ECU:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
D DOR CTY SW	Driver side door courtesy switch signal /ON or OFF	ON: Driver side door is open OFF: Driver side door is closed	–

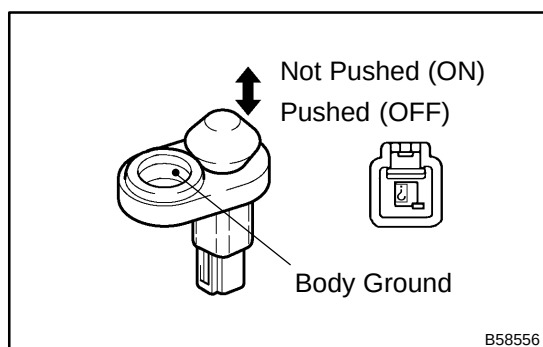
OK: "ON"(driver side door is open) appears on the screen.

NG

Go to step 3

OK

Go to step 5

3 INSPECT FRONT DOOR COURTESY LAMP SWITCH ASSY (DRIVER SIDE)

- (a) Remove the switch.
- (b) Measure the switch resistance.

Standard:

Tester Connection	Switch Condition	Specified Condition
1 – Body ground	Not pushed (ON)	Below 1 Ω
1 – Body ground	Pushed (OFF)	10 k Ω or higher

NG

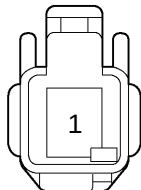
REPLACE FRONT DOOR COURTESY LAMP SWITCH ASSY

OK

4 CHECK WIRE HARNESS (FRONT DOOR COURTESY LAMP SWITCH ASSY (DRIVER SIDE) – INSTRUMENT PANEL J/B ASSY)

Wire Harness Side

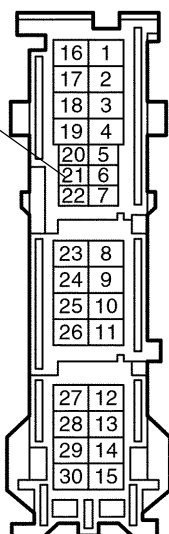
D7
Front Door Courtesy Lamp Switch Assy



B65420

1D
Instrument Panel J/B Assy

DCTY



B79240

B79560

- Disconnect the D7 switch and 1D J/B connectors.
- Measure the resistance of the wire harness side connectors.

Standard:

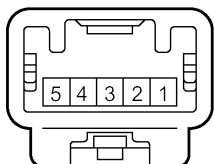
Tester Connection	Specified Condition
D7-1 – 1D-21 (DCTY)	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

5 INSPECT KEY SLOT



B79242

- Measure the switch resistance.

Standard:

Tester Condition	Switch Condition	Specified Condition
2 – 4	Key in key slot	Below 1 Ω
2 – 4	No key in key slot	10 k Ω or higher

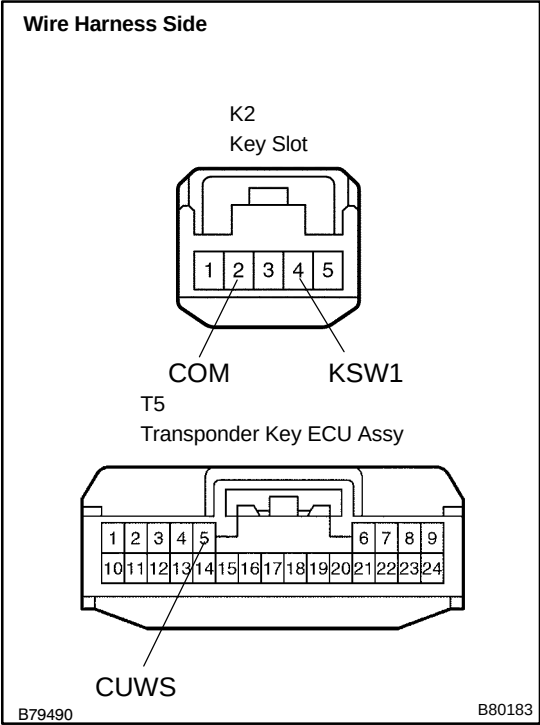
NG

REPLACE KEY SLOT

OK

6

CHECK WIRE HARNESS (KEY SLOT – TRANSPONDER KEY ECU AND BODY GROUND)



- (a) Disconnect the K2 key slot and T5 ECU connectors.
- (b) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
K2-4 (KSW1) – T5-5 (CUWS)	Below 1 Ω
K2-2 (COM) – Body ground	10 k Ω or higher

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

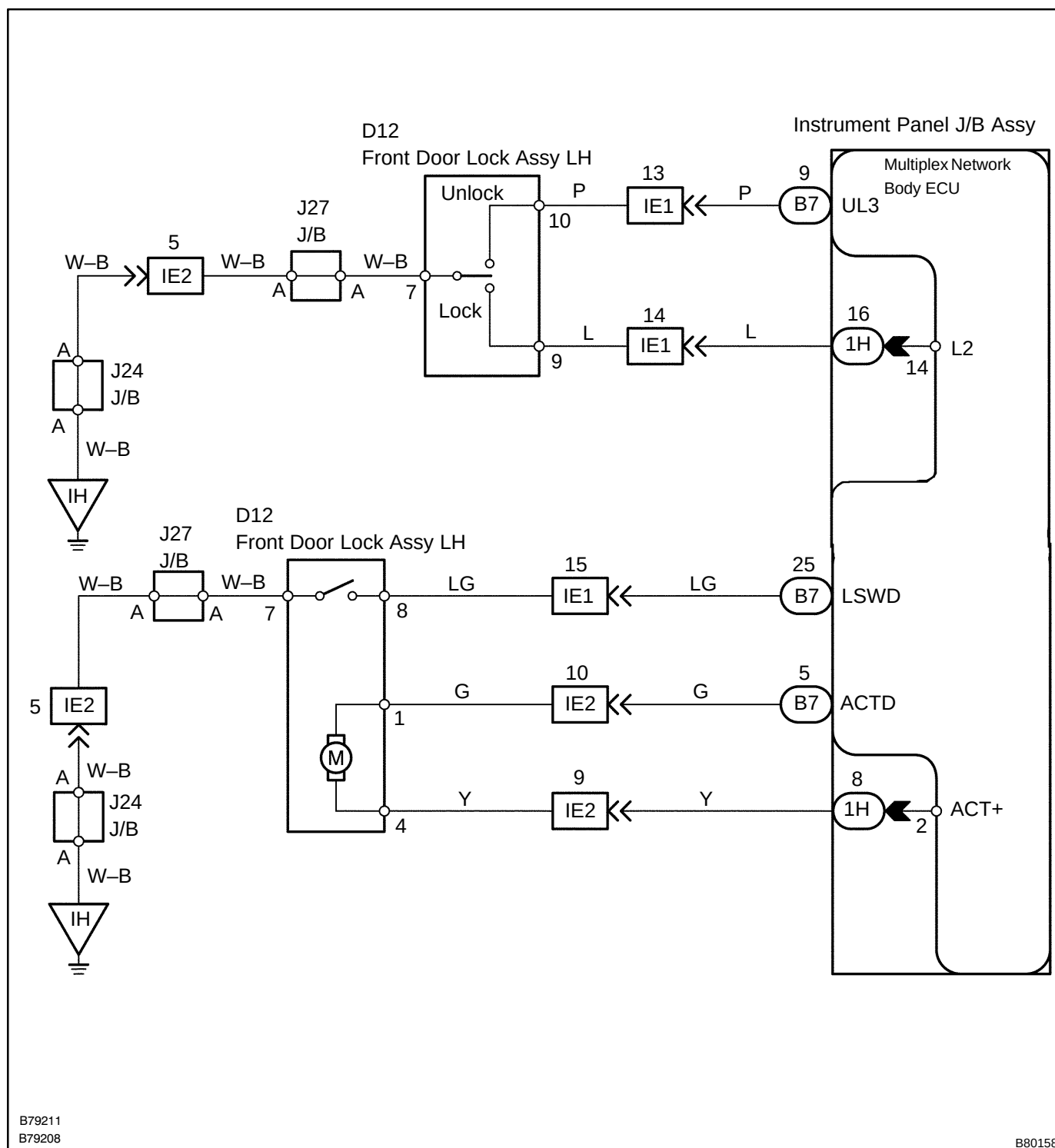
REPLACE TRANSPONDER KEY ECU ASSY

ONLY DRIVER DOOR LOCK/UNLOCK FUNCTIONS DO NOT OPERATE

CIRCUIT DESCRIPTION

The instrument panel J/B Assy (multiplex network body ECU) receives lock/unlock switch signals and activates the door lock motor according to the signals.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 PERFORM ACTIVE TEST USING HAND-HELD TESTER

- (a) Select the ACTIVE TEST, use the hand-held tester to generate a control command, and then check that the power door lock operates.

Multiplex network body ECU:

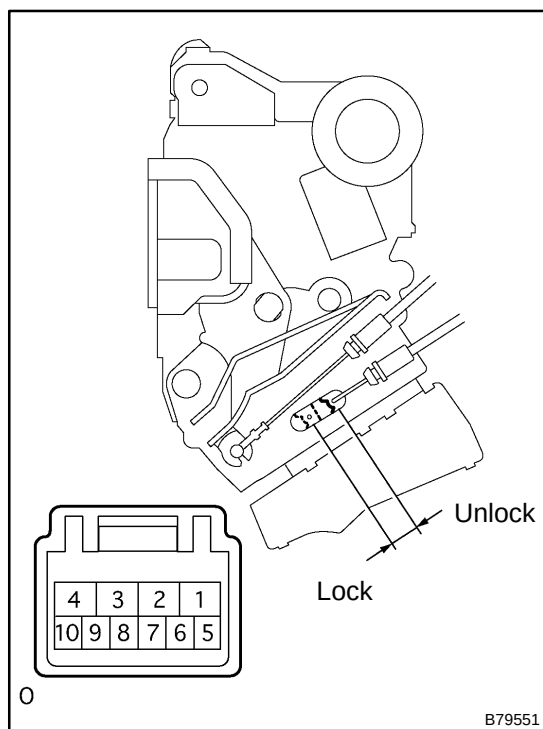
Item	Test Details	Diagnostic Note
DOOR LOCK	Operate door lock motor for all doors LOCK/UNLOCK	All doors are closed

OK: Door can lock/unlock.

NG

Go to step 2

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)**2 INSPECT FRONT DOOR LOCK ASSY LH (DOOR LOCK AND UNLOCK SWITCH AND POSITION SWITCH)**

- (a) Measure the resistance of the door lock and unlock switch and position switch.

Standard:

Door lock and unlock switch

Tester Connection	Switch Condition	Specified Condition
7 – 9	Lock	Below 1 Ω
7 – 9 7 – 10	OFF	10 k Ω or higher
7 – 10	Unlock	Below 1 Ω

Standard:

Position switch

Tester Connection	Switch Condition	Specified Condition
7 – 8	Lock	10 k Ω or higher
7 – 8	Unlock	Below 1 Ω

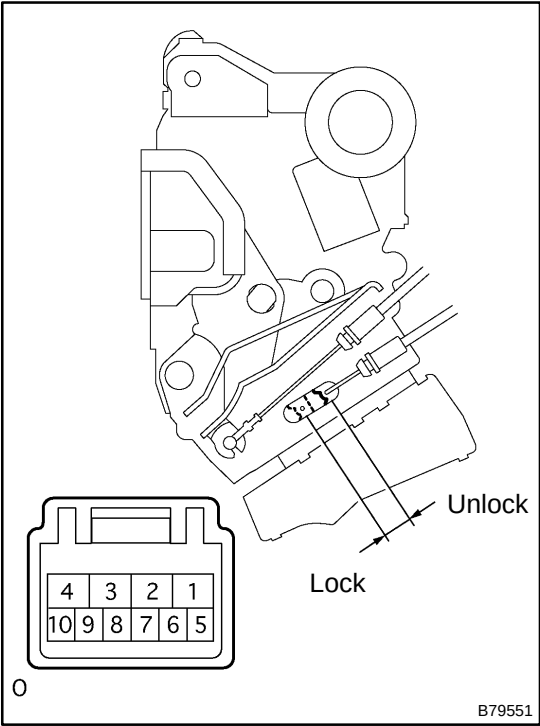
NG

REPLACE FRONT DOOR LOCK ASSY LH

OK

3

INSPECT FRONT DOOR LOCK ASSY LH (DOOR LOCK MOTOR)



- (a) Apply battery voltage to the door lock and check operation of the door lock motor.

OK:

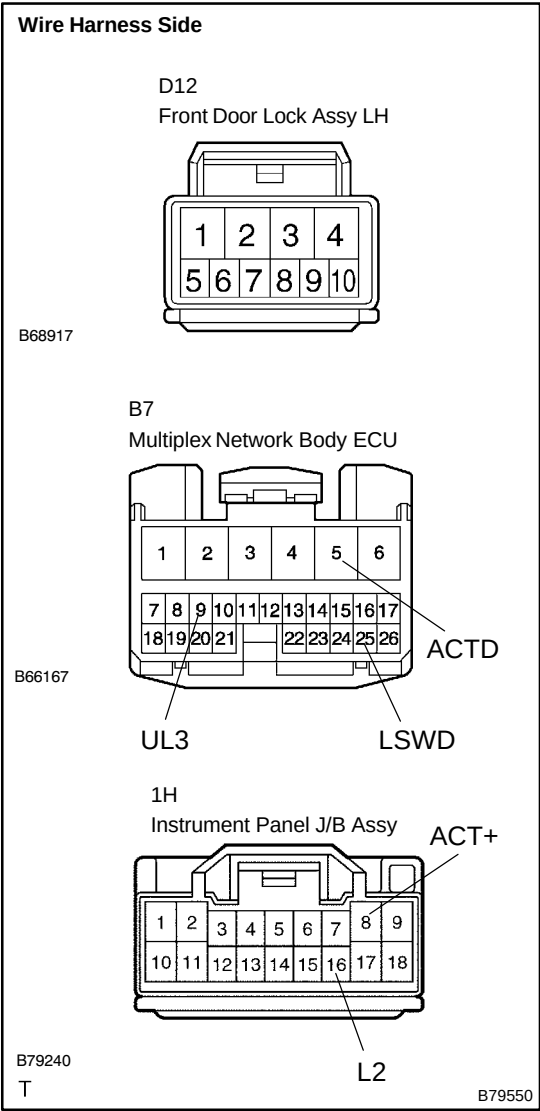
Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

OK

NG REPLACE FRONT DOOR LOCK ASSY LH

4

CHECK WIRE HARNESS (FRONT DOOR LOCK ASSY LH – MULTIPLEX NETWORK BODY ECU, INSTRUMENT PANEL J/B ASSY AND BODY GROUND)



- (a) Disconnect the D12 lock connector.
- (b) Disconnect the B7 ECU connector.
- (c) Disconnect the 1H J/B connector.
- (d) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
D12-4 – 1H-8 (ACT+)	Below 1 Ω
D12-1 – B7-5 (ACTD)	Below 1 Ω
D12-8 – B7-25 (LSWD)	Below 1 Ω
D12-9 – 1H-16 (L2)	Below 1 Ω
D12-10 – B7-9 (UL3)	Below 1 Ω
D12-7 – Body ground	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

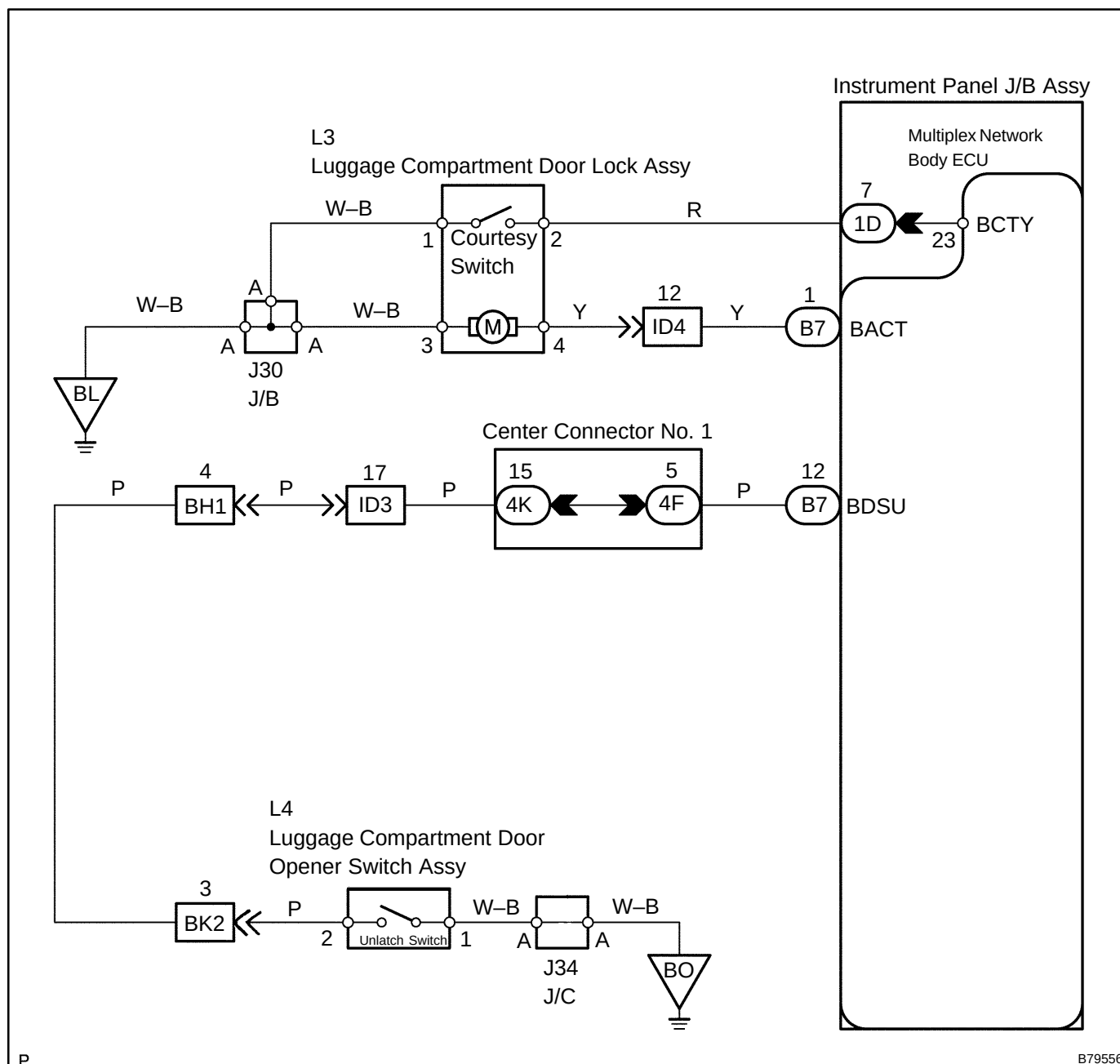
REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)

ONLY LUGGAGE DOOR LOCK/UNLOCK FUNCTIONS DO NOT OPERATE

CIRCUIT DESCRIPTION

The instrument panel J/B Assy (multiplex network body ECU) receives switch signals from the power window regulator master switch Assy and activates the luggage compartment door lock motor according to the signals.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 READ VALUE OF HAND-HELD TESTER

- (a) Check the DATA LIST for proper functioning of the luggage compartment door opener switch.

Multiplex network body ECU:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
B DOR OPEN SW	Luggage compartment door opener switch signal /ON or OFF	ON: Luggage compartment door opener switch is pushed OFF: Luggage compartment door opener switch is not pushed	–

OK: "ON" (luggage compartment door opener switch is pushed) appears on the screen.**NG****Go to step 2**

- (b) Check the DATA LIST for proper functioning of the luggage compartment door open judgment.

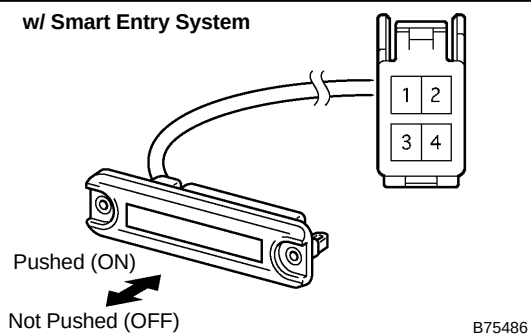
Multiplex network body ECU:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
TRNK/B DOR OPEN	Luggage compartment door open judgment /PROHIBT or PERMIT	PROHIBT: Luggage compartment door opening is impossible PERMIT: Luggage compartment door opening is possible	–

OK: "PERMIT" (luggage compartment door can be opened) appears on the screen.**NG****Go to step 4****OK****Go to step 5**

2 INSPECT LUGGAGE COMPARTMENT DOOR OPENER SWITCH ASSY

w/ Smart Entry System

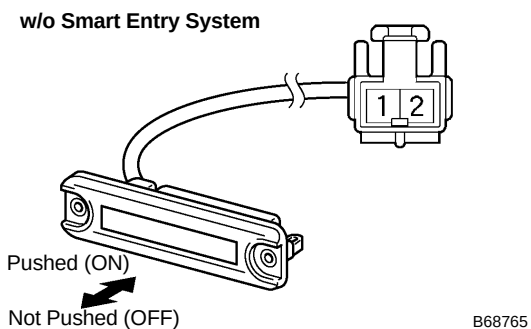


- Remove the opener switch.
- Measure the resistance of the switch.

Standard:

Tester Connection	Switch Condition	Specified Condition
1 – 2	Pushed (ON)	Below 1 Ω
1 – 2	Not pushed (OFF)	10 k Ω or higher

w/o Smart Entry System



NG

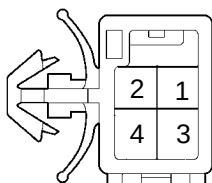
REPLACE LUGGAGE COMPARTMENT DOOR OPENER SWITCH ASSY

OK

3 CHECK WIRE HARNESS (LUGGAGE COMPARTMENT DOOR OPENER SWITCH ASSY – MULTIPLEX NETWORK BODY ECU AND BODY GROUND)

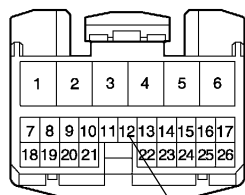
Wire Harness Side

L4
Luggage Compartment Door Opener Switch Assy



B66814

B7
Multiplex Network Body ECU



B66167

BDSU

B79557

- Disconnect the B7 ECU and L4 switch connectors.
- Measure the resistance of the wire harness side connectors.

Standard:

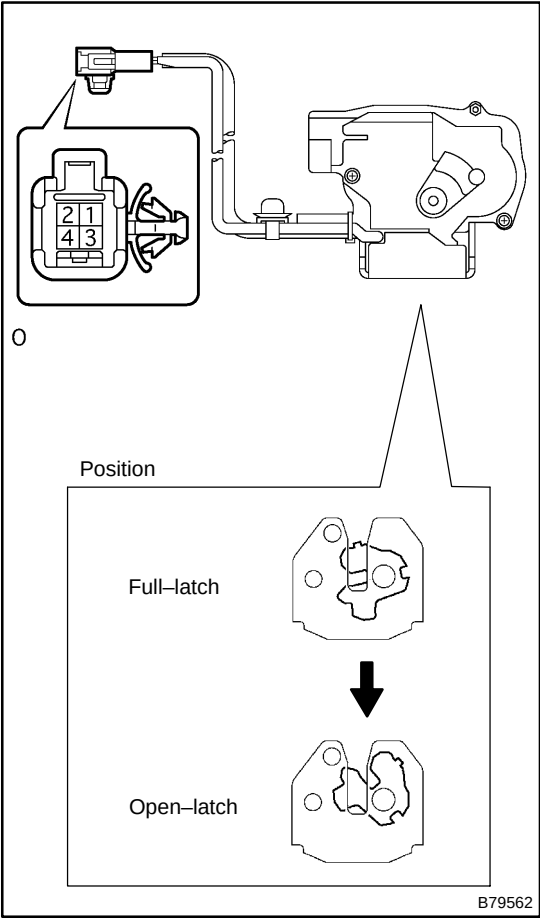
Tester Connection	Specified Condition
L4-2 – B7-12 (BDSU)	Below 1 Ω
L4-1 – Body ground	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

4 INSPECT LUGGAGE COMPARTMENT DOOR LOCK ASSY (DOOR LOCK MOTOR)



- (a) Check operation of the door lock.
- (1) Using a screwdriver, move the latch to the full-latch position.
 - (2) Apply battery voltage to the door lock and check operation the latch.

OK:

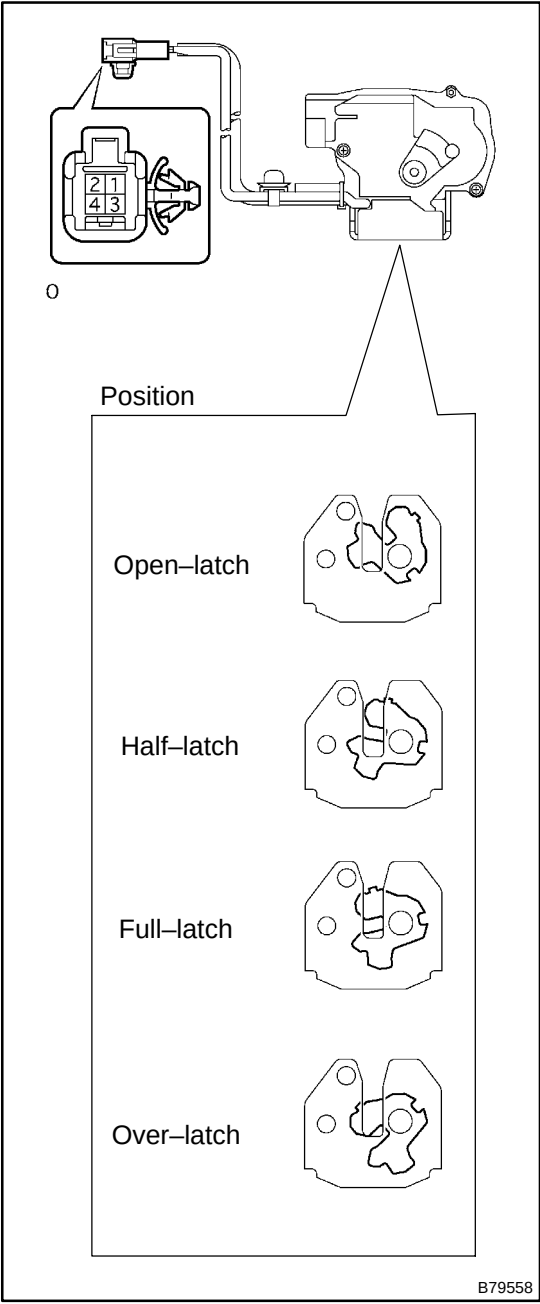
Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4	Latch turns to open-latch position
Battery negative (-) → Terminal 3	

OK

NG REPLACE LUGGAGE COMPARTMENT DOOR LOCK ASSY

5

INSPECT LUGGAGE COMPARTMENT DOOR LOCK ASSY (COURTESY SWITCH)



(a) Measure the resistance of the switch.

Standard:

Tester Connection	Switch Condition	Specified Condition
1 – 2	Open-latch	Below 1 Ω
1 – 2	Half-latch	Below 1 Ω
1 – 2	Full-latch	10 k Ω or higher
1 – 2	Over-latch	10 k Ω or higher

OK

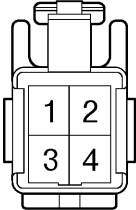
NG REPLACE LUGGAGE COMPARTMENT DOOR LOCK ASSY

6

CHECK WIRE HARNESS (LUGGAGE COMPARTMENT DOOR LOCK ASSY – MULTIPLEX NETWORK BODY ECU, INSTRUMENT PANEL J/B ASSY AND BODY GROUND)

Wire Harness Side

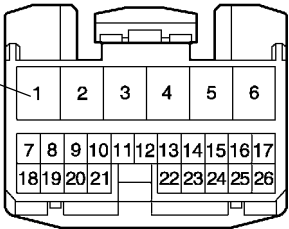
L3
Luggage Compartment Door Lock Assy



B64464
T

B7
Multiplex Network Body ECU

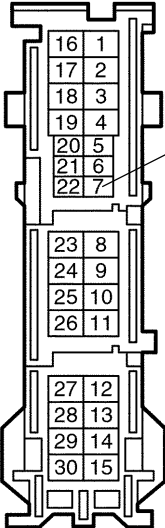
BACT



B66167

1D
Instrument Panel J/B Assy

BCTY



B79240

B79559

- (a) Disconnect the L3 lock, B7 ECU and 1D J/B connectors.
- (b) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
L3-2 – 1D-7 (BCTY)	Below 1 Ω
L3-4 – B7-1 (BACT)	Below 1 Ω
L3-1 – Body ground	Below 1 Ω
L3-3 – Body ground	Below 1 Ω

OK

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

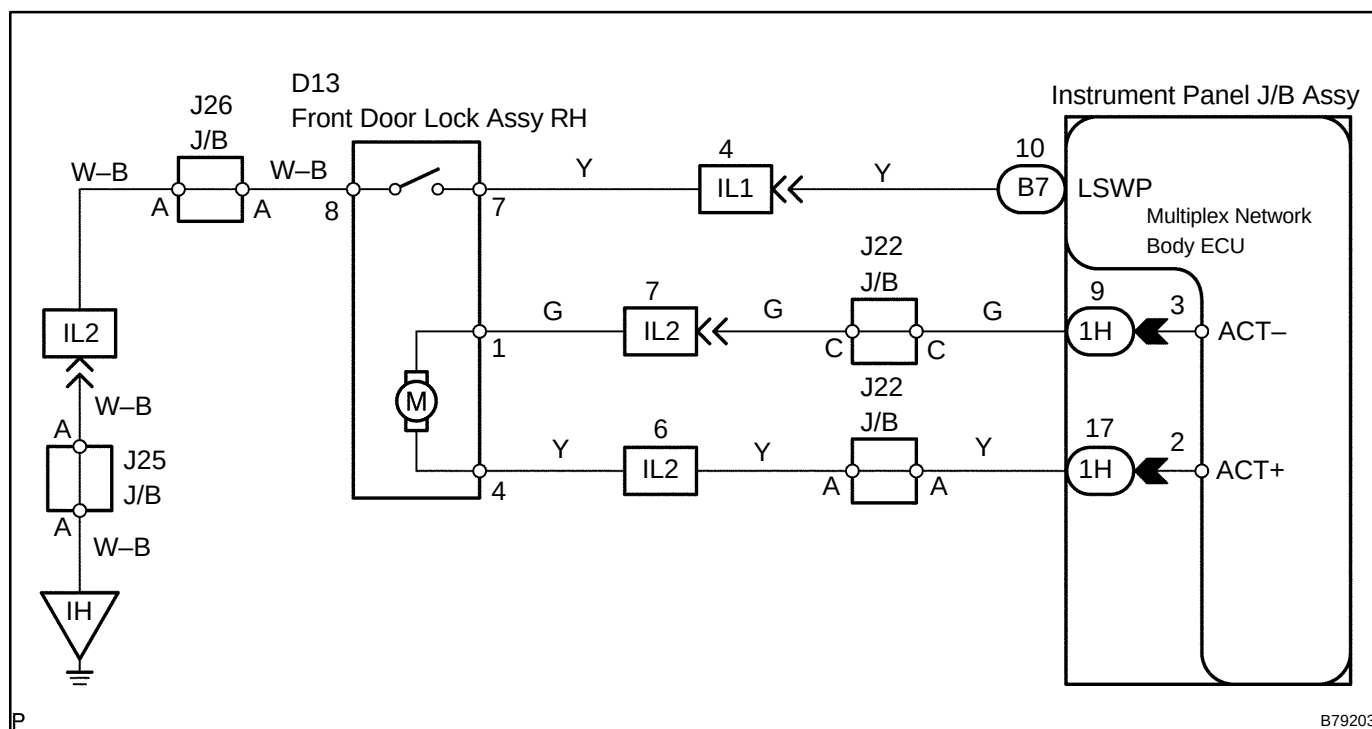
REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)

ONLY PASSENGER DOOR LOCK/UNLOCK FUNCTIONS DO NOT OPERATE

CIRCUIT DESCRIPTION

The instrument panel J/B Assy (multiplex network body ECU) receives lock/unlock switch signals and activates the door lock motor according to the signals.

WIRING DIAGRAM



INSPECTION PROCEDURE**1 PERFORM ACTIVE TEST USING HAND-HELD TESTER**

- (a) Select the ACTIVE TEST, use the hand-held tester to generate a control command, and then check that the power door lock operates.

Multiplex network body ECU:

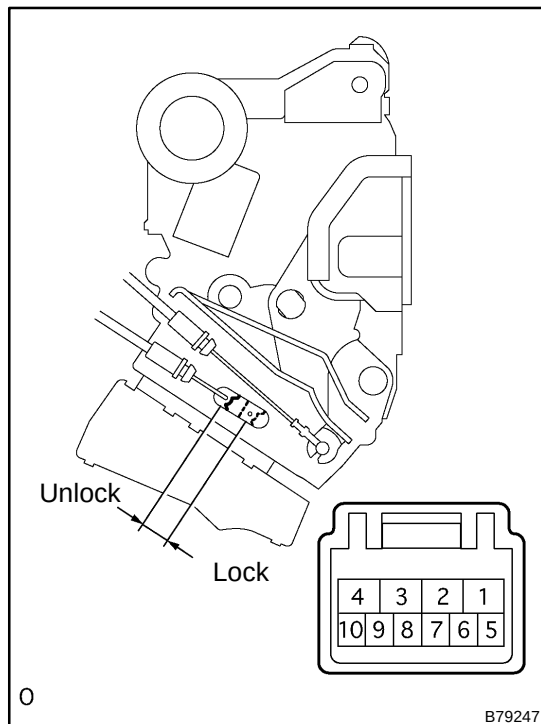
Item	Test Details	Diagnostic Note
DOOR LOCK	Operate door lock motor for all doors LOCK/UNLOCK	All doors are closed

OK: Door can lock/unlock.

NG

Go to step 2

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)**2 INSPECT FRONT DOOR LOCK ASSY RH (POSITION SWITCH)**

- (a) Measure the resistance of the position switch.

Standard:

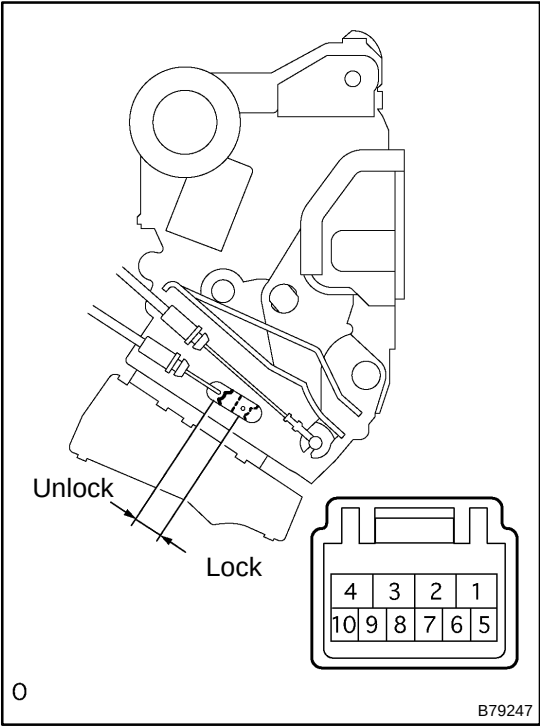
Tester Connection	Switch Condition	Specified Condition
7 – 8	Lock	10 k Ω or higher
7 – 8	Unlock	Below 1 Ω

NG

REPLACE FRONT DOOR LOCK ASSY RH

OK

3 INSPECT FRONT DOOR LOCK ASSY RH (DOOR LOCK MOTOR)



- (a) Apply battery voltage to the door lock and check operation of the door lock motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

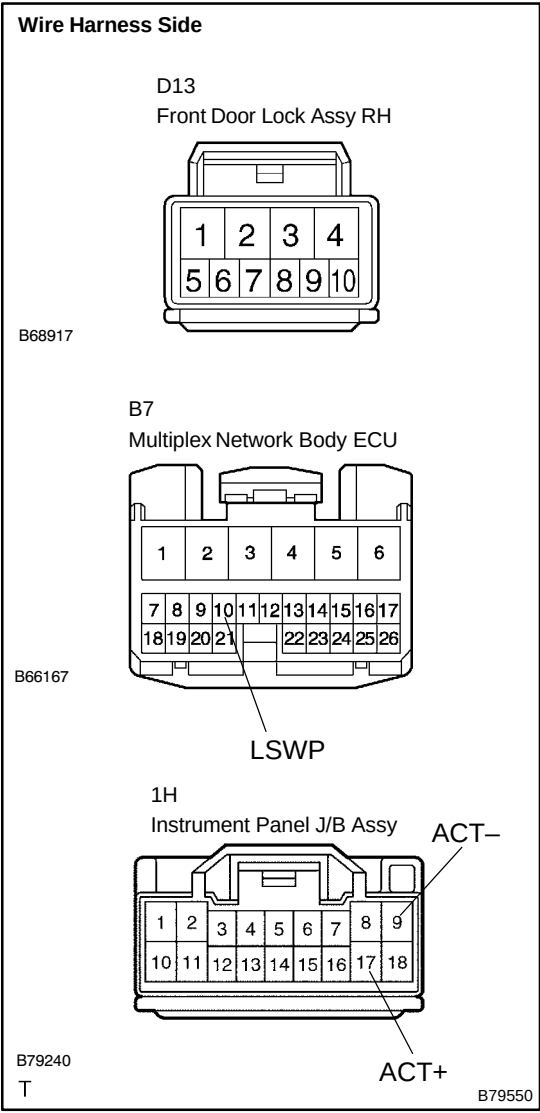
NG

REPLACE FRONT DOOR LOCK ASSY RH

OK

4

CHECK WIRE HARNESS (FRONT DOOR LOCK ASSY RH – MULTIPLEX NETWORK BODY ECU, INSTRUMENT PANEL J/B ASSY AND BODY GROUND)



- (a) Disconnect the D13 lock connector.
- (b) Disconnect the B7 ECU connector.
- (c) Disconnect the 1H J/B connector.
- (d) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
D13-4 – 1H-17 (ACT+)	Below 1 Ω
D13-1 – 1H-9 (ACT-)	Below 1 Ω
D13-7 – B7-10 (LSWP)	Below 1 Ω
D13-8 – Body ground	Below 1 Ω

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)

INSPECTION PROCEDURE

1 PERFORM ACTIVE TEST USING HAND-HELD TESTER

- (a) Select the ACTIVE TEST, use the hand-held tester to generate a control command, and then check that the power door lock operates.

Multiplex network body ECU:

Item	Test Details	Diagnostic Note
DOOR LOCK	Operate door lock motor for all doors LOCK/UNLOCK	All doors are closed

OK: Door can lock/unlock.

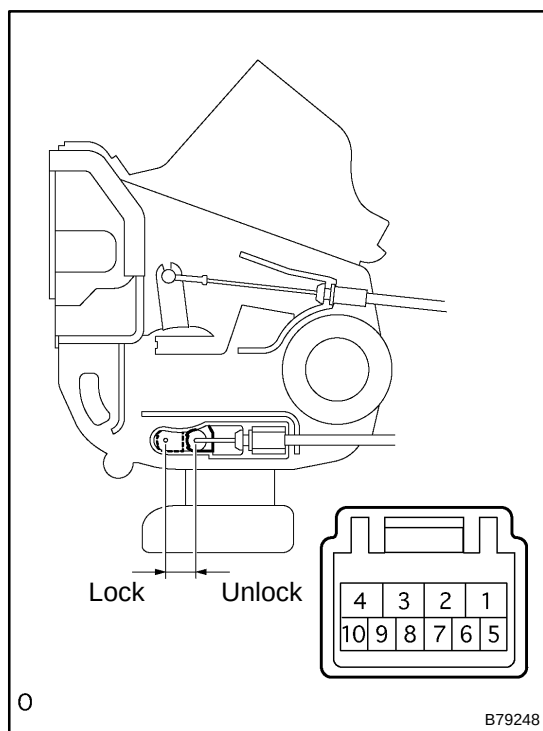
NG

Go to step 2 (w/ THEFT DETERRENT SYSTEM)

NG

Go to step 3 (w/o THEFT DETERRENT SYSTEM)

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)**2 INSPECT REAR DOOR LOCK ASSY LH (POSITION SWITCH)**

- (a) Measure the resistance of the position switch.

Standard:

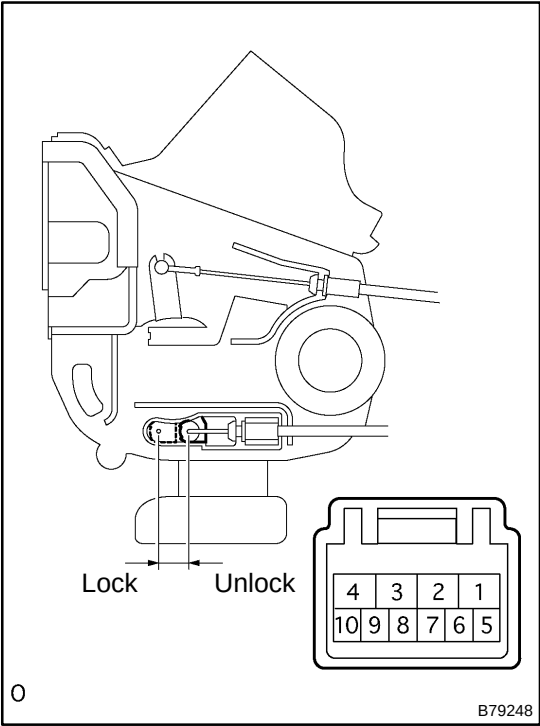
Tester Connection	Switch Condition	Specified Condition
6 – 9	Lock	10 k Ω or higher
6 – 9	Unlock	Below 1 Ω

NG

REPLACE REAR DOOR LOCK ASSY LH

OK

3 INSPECT REAR DOOR LOCK ASSY LH (DOOR LOCK MOTOR)



- (a) Apply battery voltage to the door lock and check operation of the door lock motor.
- OK:**

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

OK

NG **REPLACE REAR DOOR LOCK ASSY LH**

4

CHECK WIRE HARNESS (REAR DOOR LOCK ASSY LH – MULTIPLEX NETWORK BODY ECU, INSTRUMENT PANEL J/B ASSY AND BODY GROUND)

Wire Harness Side

D14
Rear Door Lock Assy LH

B68917

B5
Multiplex Network Body ECU

B79240

LSWR*

1D
Instrument Panel J/B Assy

T

B79240

B79554

- (a)
- Disconnect the D14 lock, B5 ECU and 1D J/B connectors.
- (b)
- Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
D14-4 – 1D-3 (ACT+)	Below 1 Ω
D14-1 – 1D-4 (ACT-)	Below 1 Ω
D14-6 – B5-10 (LSWR)*	Below 1 Ω
D14-9 – Body ground	Below 1 Ω

*: w/ Theft deterrent system

NG

REPAIR OR REPLACE HARNESS AND CON-
NECTOR

OK

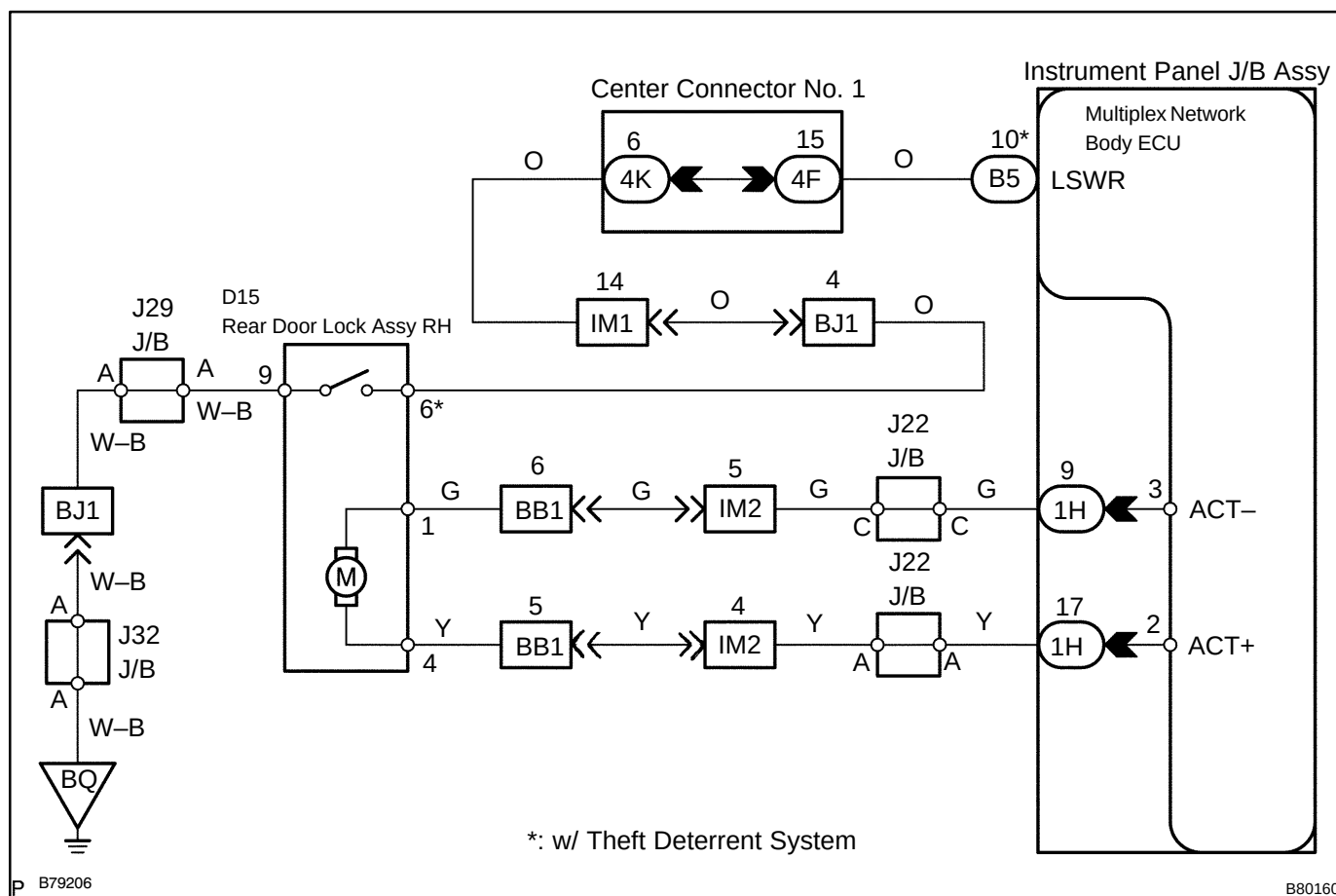
REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)

ONLY REAR RH DOOR LOCK/UNLOCK FUNCTIONS DO NOT OPERATE

CIRCUIT DESCRIPTION

The instrument panel J/B Assy (multiplex network body ECU) receives lock/unlock switch signals and activates the door lock motor according to the signals.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 PERFORM ACTIVE TEST USING HAND-HELD TESTER

- (a) Select the ACTIVE TEST, use the hand-held tester to generate a control command, and then check that the power door lock operates.

Multiplex network body ECU (Driver door ECU):

Item	Test Details	Diagnostic Note
DOOR LOCK	Operate door lock motor for all doors LOCK/UNLOCK	All doors are closed

OK: Door can lock/unlock.

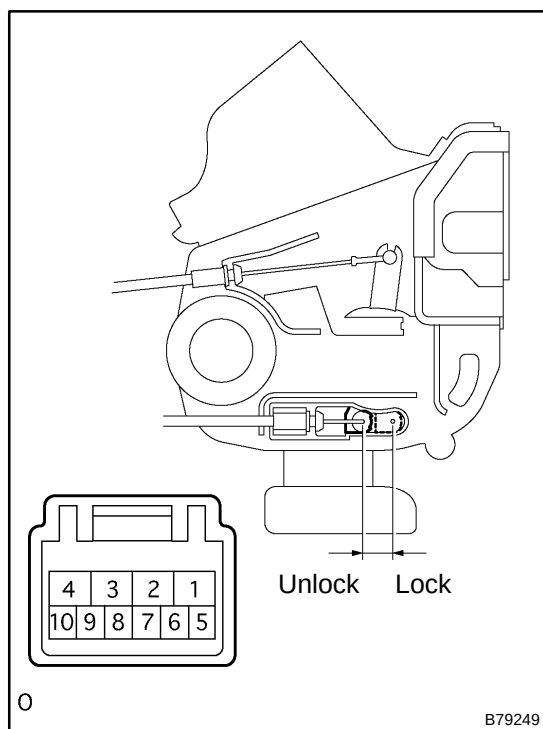
NG

Go to step 2 (w/ THEFT DETERRENT SYSTEM)

NG

Go to step 3 (w/o THEFT DETERRENT SYSTEM)

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)**2 INSPECT REAR DOOR LOCK ASSY RH (POSITION SWITCH)**

- (a) Measure the resistance of the position switch.

Standard:

Tester Connection	Switch Condition	Specified Condition
6 – 9	Lock	10 k Ω or higher
6 – 9	Unlock	Below 1 Ω

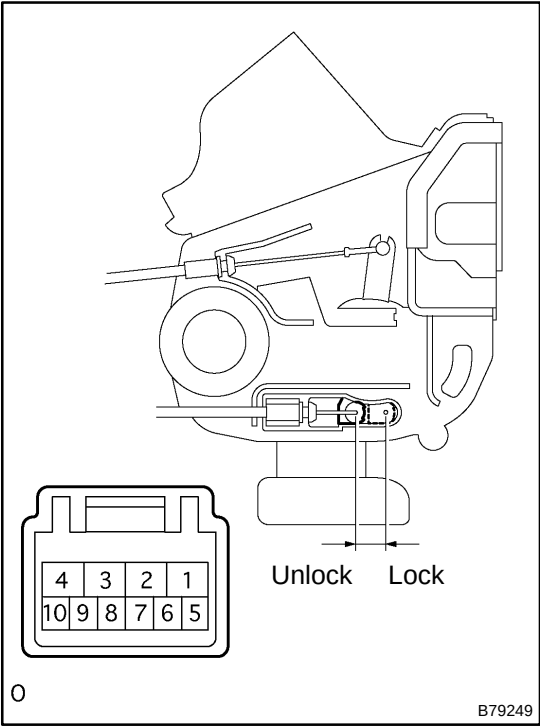
NG

REPLACE REAR DOOR LOCK ASSY RH

OK

3

INSPECT REAR DOOR LOCK ASSY RH (DOOR LOCK MOTOR)



- (a) Apply battery voltage to the door lock and check operation of the door lock motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 Battery negative (-) → Terminal 1	Lock
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 4	Unlock

OK

NG REPLACE REAR DOOR LOCK ASSY RH

4

CHECK WIRE HARNESS (REAR DOOR LOCK ASSY RH – MULTIPLEX NETWORK BODY ECU, INSTRUMENT PANEL J/B ASSY AND BODY GROUND)

Wire Harness Side

D15
Rear Door Lock Assy RH

B68917

B5
Multiplex Network Body ECU

B79240

LSWR*

1H
Instrument Panel J/B Assy

B79240

B79555

ACT-

ACT+

- (a)
- Disconnect the D15 lock, B5 ECU and 1H J/B connectors.
- (b)
- Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
D15-4 – 1H-17 (ACT+)	Below 1 Ω
D15-1 – 1H-9 (ACT-)	Below 1 Ω
D15-6 – B5-10 (LSWR*)	Below 1 Ω
D15-9 – Body ground	Below 1 Ω

*: w/ Theft deterrent system

OK

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)

ON-VEHICLE INSPECTION

1. CHECK ELECTRICAL DOOR LOCK OPERATION

- (a) Check the basic function.
- (1) For the door control switch (manual operation): 1) pushing the LOCK switch locks all the doors; and 2) pushing the UNLOCK switch unlocks all the doors.
 - (2) For the driver side door key cylinder lock function: turning the driver side door key cylinder to the LOCK position locks all the doors.
 - (3) For the driver side door key cylinder unlock function: 1) turning the driver side door key cylinder to the UNLOCK position unlocks the driver side door; and 2) turning it to the UNLOCK position again within 3 seconds unlocks the remaining doors (2-step unlock function).
- (b) Check the key lock-in prevention function.

NOTICE:

To prevent the key from being locked in the vehicle, the following inspection should be made with the driver side door window open.

- (1) Have the key inserted into the key slot.
 - (2) With the driver side door open, turn the driver side door lock knob to the LOCK position and check that all the doors unlock immediately.
 - (3) With the driver side door open, push the LOCK switch on the door control switch (manual operation) and check that all the doors unlock immediately.
 - (4) With the driver side door open, turn the driver side door lock knob to the LOCK position, hold it for at least 2 seconds and then close the driver side door. Check that all the doors unlock.
- (c) Check the security function.
- (1) Close all the doors and leave the driver side door window open so that the door control switch can be operated from outside the vehicle.
 - (2) Pull out the key, open the driver side door and then close and lock the door without using the key. Check that pushing the UNLOCK switch on the door control switch (manual operation) from outside the vehicle does not unlock the doors.
 - (3) Pull out the key, close and lock the driver side door by key operation. Check that pushing UNLOCK switch on the door control switch (manual operation) from outside the vehicle does not unlock the doors.
 - (4) Pull out the key, close the driver side door and lock the door by wireless door lock operation. Check that the pushing the UNLOCK switch on the door control switch (manual operation) from outside the vehicle does not unlock the doors.)

HINT:

Check that the security function is canceled when any of the following conditions is met:

- Turn the power switch ON (IG).
- The driver side door is unlocked using the key.
- The UNLOCK switch on the door control switch (for manual operation) is pushed after the door control knob is turned to the UNLOCK position manually.
- The doors are unlocked with wireless or smart unlock operation.

SYSTEM DESCRIPTION

1. POWER DOOR LOCK CONTROL SYSTEM DESCRIPTION

The power door lock system locks/unlocks all the doors simultaneously.

The master switch and the door control switch (on the passenger side door) send lock/unlock request signals to the body ECU. Then, the body ECU sends these requests to the lock motors in each door to lock/unlock all the doors simultaneously.

Operating the driver side door lock using a key sends lock/unlock request signals to the door lock control relay. The driver side door key-linked lock function has an optional unlock method called the "2-step unlock function".

2. FUNCTION OF MAIN COMPONENT

Components	Function
Master switch	• Door control switch on master switch assembly locks/unlocks all doors.
Door control switch	• Door control switch on passenger door locks/unlocks all doors.
Door courtesy switch	• Placed on each door. Detects door status (open or closed) and outputs data to body ECU. Turns on when door is open and off when door is closed.
Driver door lock	• Built-in motor locks/unlocks door. • Built-in door control switch (key-linked) detects door key operation's door status (locked or unlocked) and outputs data to body ECU. • Built-in position switch detects door status (locked or unlocked) and output data to body ECU. This switch turns off when door is locked and turns on when door is unlocked.
Passenger, RL and RR door locks	• Built-in motor locks/unlocks door. • Built-in position switch detects door status (locked or unlocked) and outputs data to body ECU. This switch turns off when door is locked and on when door is unlocked.

3. DESCRIPTION

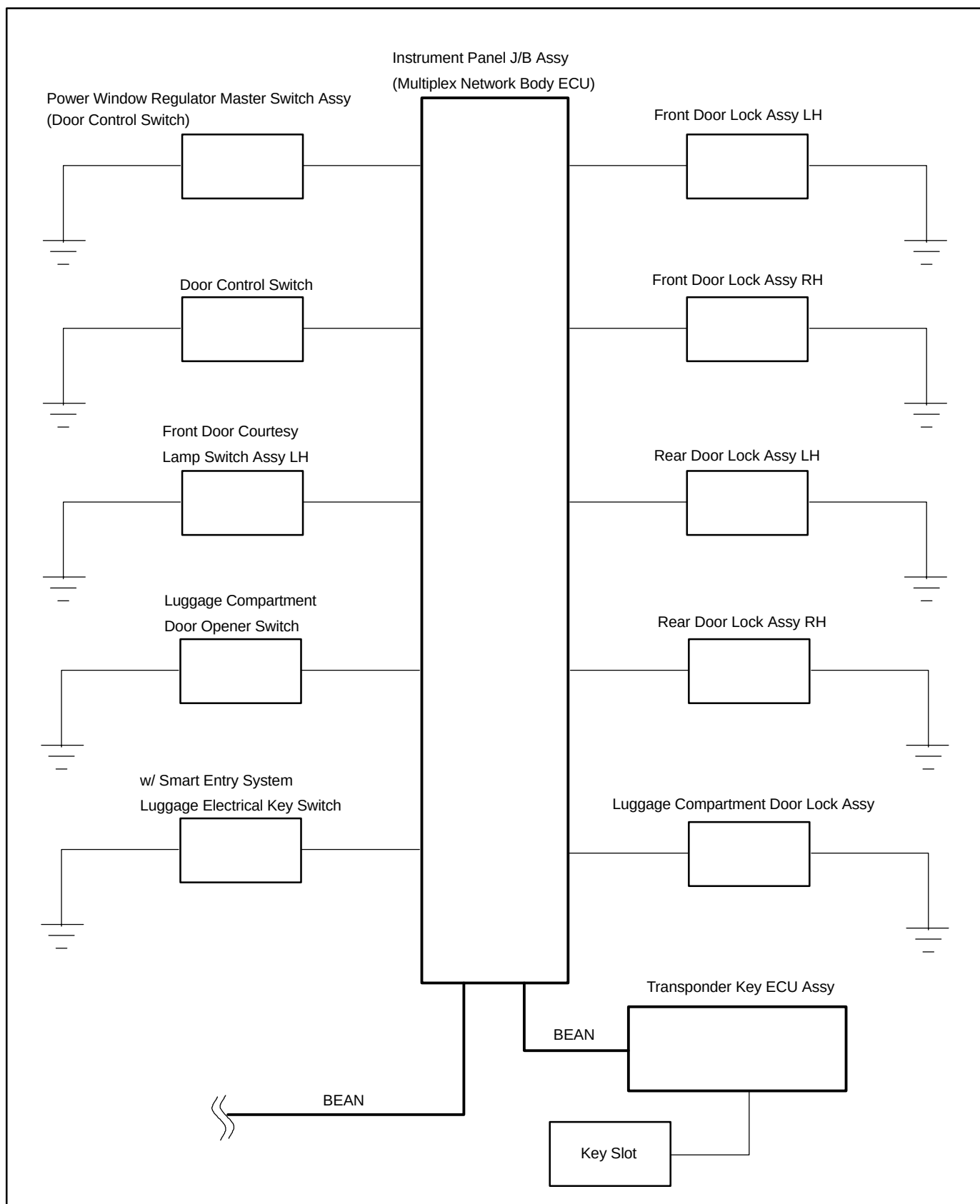
- This system is controlled by the body ECU. The body ECU outputs signals to each door lock motor.
- The door lock control system in the PRIUS has the following functions:

Function	Outline
Manual lock and unlock function	Locks/unlocks all doors by door control switch's lock operation (manual operation).
Key-linked lock and unlock function	Linked with door key cylinder. Locks/unlocks all doors when lock/unlock operation is possible.
Key confine prevention function	When key is inserted in key slot with driver's door open and if you perform door lock operation, all doors will be unlocked.
Manual unlock prohibition function	Performing door lock operation with transmitter, mechanical key or smart lock function* ¹ disables unlock operation by door lock control switch.
2-step unlock function* ¹	Unlock only driver door by turning key cylinder once and unlock remaining doors by turning it twice.
All doors lock with transmitter* ¹	Pressing transmitter's lock switch locks all doors.
All doors unlock with transmitter* ¹	Pressing transmitter's unlock switch once unlocks driver door and pressing it again within 3 seconds unlocks remaining doors.
Smart unlock function* ²	User can unlock all doors by keeping smart key in his/her possession and touching outside door handle.
Smart lock function* ²	User can lock all doors by keeping smart key in his/her possession and pressing lock switch on outside door handle.

*¹: Function can be customized

*²: Models with smart entry system

SYSTEM DIAGRAM



CUSTOMER PROBLEM ANALYSIS CHECK

POWER DOOR LOCK CONTROL SYSTEM Check Sheet

Inspector's name: _____

Customer's Name		VIN	
		Production Date	
		License Plate No.	
Date Vehicle Brought in	/ /	Odometer Reading	km miles

Date Problem First Occurred	/ /
Frequency Problem Occurs	☐ Constant ☐ Sometimes (Times per day, month) ☐ Once only
Weather Conditions When Problem Occurred	Weather ☐ Fine ☐ Cloudy ☐ Rainy ☐ Snowy ☐ Various/Others
	Outdoor temperature ☐ Hot ☐ Warm ☐ Cool ☐ Cold (Approx. °C (°F))

Problem Symptoms	☐ Malfunction in door lock/unlock operation using door lock control switch	☐ Driver side door control switch ☐ Passenger side door control switch	☐ Driver side door ☐ Passenger side door ☐ Rear left door ☐ Rear right door ☐ Luggage compartment door
	☐ Malfunction in door lock/unlock operation using key	☐ Driver side door key lock and unlock control switch	☐ Driver side door ☐ Passenger side door ☐ Rear left door ☐ Rear right door ☐ Luggage compartment door
	☐ Malfunction in key lock-in prevention function		
	☐ Other		

DIAGNOSTIC TROUBLE CODE CHART

If a malfunction code is displayed during the DTC check, check the circuit listed for that code in the table below and proceed to the page given for that circuit.

DTC No. (See Page)	Detection Item	Trouble Area
B1241 (05-2088)	Door Control Switch Circuit Diagnosis	• Power window regulator master switch Assy (Door control switch) • Door control switch Assy • Instrument panel J/B Assy (Multiplex network body ECU) • Wire harness

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use this procedure to troubleshoot the power door lock control system.
- The hand-held tester should be used in steps 3, 4 and 6.

1 VEHICLE BROUGHT TO WORKSHOP

2 CUSTOMER PROBLEM ANALYSIS CHECK AND SYMPTOM CHECK

3 CHECK COMMUNICATION FUNCTION OF LARGE-SCALE BODY MULTIPLEX COMMUNICATION SYSTEM (BEAN)

- (a) Use the hand-held tester to check for normal function of the multiplex communication system.
- (1) (ECU unconnected, communication line malfunctioning) Without code outputs, proceed to A.
 - (2) (ECU unconnected, communication line malfunctioning) With code outputs, proceed to B.

B

Go to MULTIPLEX COMMUNICATION SYSTEM
(See page [05-2557](#))

A

4 DTC CHECK (See page [05-2084](#))

- (a) Check for DTC and note any codes that are output.
- (b) Delete the DTC.
- (c) Recheck for DTCs. Try to prompt the DTC by simulating the original activity that the DTC suggests.
- (1) If the DTC does not reoccur, proceed to A.
 - (2) If the DTC reoccurs, proceed to B.

B

Go to step 6

A

5 PROBLEM SYMPTOMS TABLE (See page [05-2077](#))

- (a) If the fault is not listed on the problem symptoms table, proceed to A.
- (b) If the fault is listed on the problem symptoms table, proceed to B.

B

Go to step 7

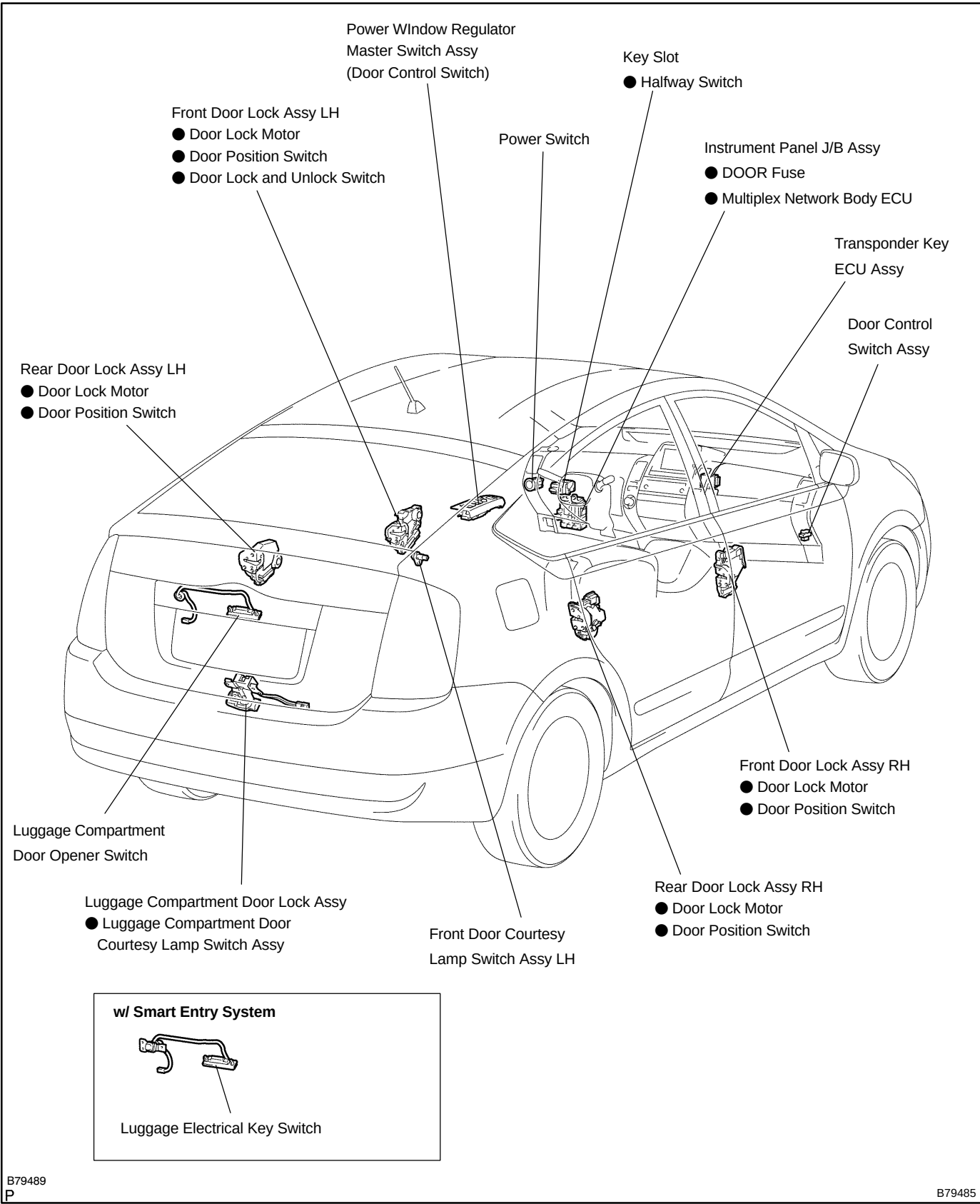
A

6 OVERALL ANALYSIS AND TROUBLESHOOTING

- (a) DATA LIST/ACTIVE TEST (see page [05-2085](#))
- (1) Inspection with the hand-held tester (DATA LIST).
 - (2) Inspection with the hand-held tester (ACTIVE TEST).
- (b) Terminals of ECU (see page [05-2078](#)).
- (c) On-vehicle inspection (see page [05-2130](#)).
- (d) Inspection (see page [05-2131](#)).

**7 ADJUST, REPAIR OR REPLACE****8 CONFIRMATION TEST****END**

LOCATION



B79489
P

B79485

POWER DOOR LOCK CONTROL SYSTEM

05J36-01

PRECAUTION

NOTICE FOR INITIALIZATION:

When disconnecting the negative (–) battery terminal, initialize the following system(s) after the terminal is reconnected.

System Name	See Page
Power Window Control System	05-2028

NOTICES FOR HYBRID SYSTEM ACTIVATION:

When the warning lamp is illuminated or the battery has been disconnected and reconnected, pressing the power switch may not start the system on the first try. If so, press the power switch again.

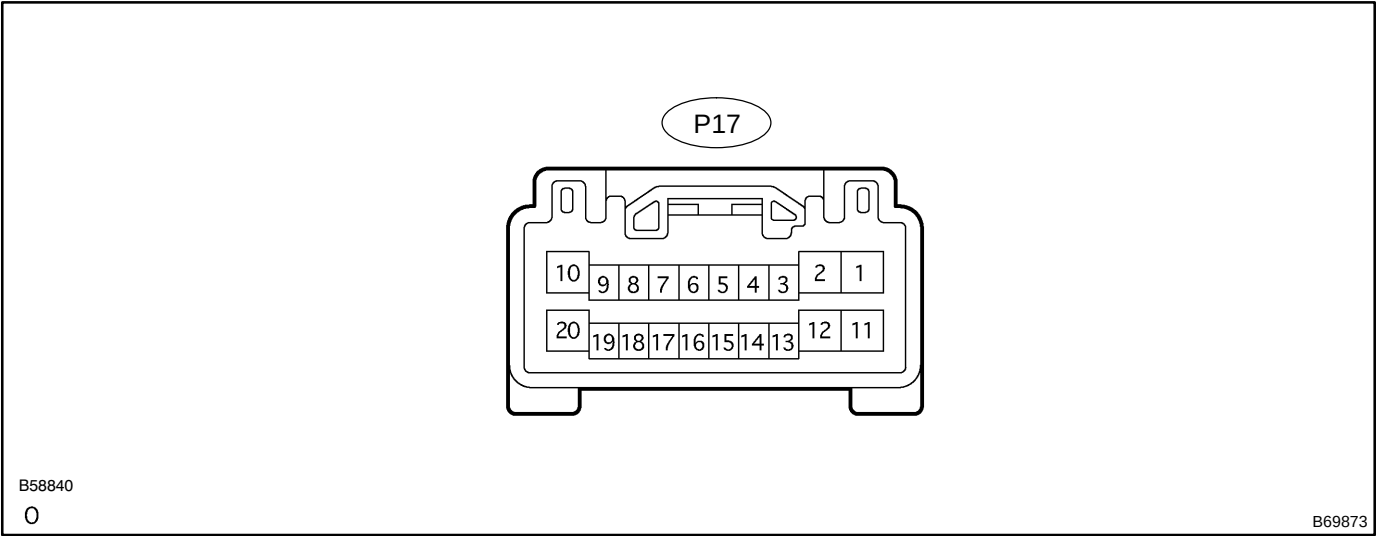
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PROBLEM SYMPTOMS TABLE

Symptom	Suspected Area	See Page
All doors lock/unlock functions do not operate via master switch	- DOOR fuse - DOME fuse - Power window regulator master switch assy - Wire harness - Instrument panel J/B assy (Multiplex network body ECU)	05-2095
All doors lock/unlock functions do not operate via door control switch	- Door control switch assy - Wire harness - Instrument panel J/B assy (Multiplex network body ECU)	05-2098
All doors lock/unlock functions do not operate via driver side door key cylinder	- Front door lock assy LH - Wire harness - Instrument panel J/B assy (Multiplex network body ECU)	05-2100
Only driver door lock/unlock functions do not operate	- Front door lock assy LH - Wire harness - Instrument panel J/B assy (Multiplex network body ECU)	05-2103
Only passenger door lock/unlock functions do not operate	- Front door lock assy RH - Wire harness - Instrument panel J/B assy (Multiplex network body ECU)	05-2107
Only rear LH door lock/unlock functions do not operate	- Rear door lock assy LH - Wire harness - Instrument panel J/B assy (Multiplex network body ECU)	05-2111
Only rear RH door lock/unlock functions do not operate	- Rear door lock assy RH - Wire harness - Instrument panel J/B assy (Multiplex network body ECU)	05-2115
Only luggage door lock/unlock functions do not operate	- Luggage compartment door lock assy - Luggage compartment door opener switch (w/o smart key system) - Luggage electrical key switch (w/ smart key system) - Wire harness - Instrument panel J/B assy (Multiplex network body ECU)	05-2119
Key lock-in prevention function does not work properly (manual operation and key-linked lock are activated)	- Key slot - Front door courtesy lamp switch assy LH - Wire harness - Instrument panel J/B assy (Multiplex network body ECU)	05-2125

TERMINALS OF ECU

1. CHECK POWER WINDOW REGULATOR MASTER SWITCH ASSY



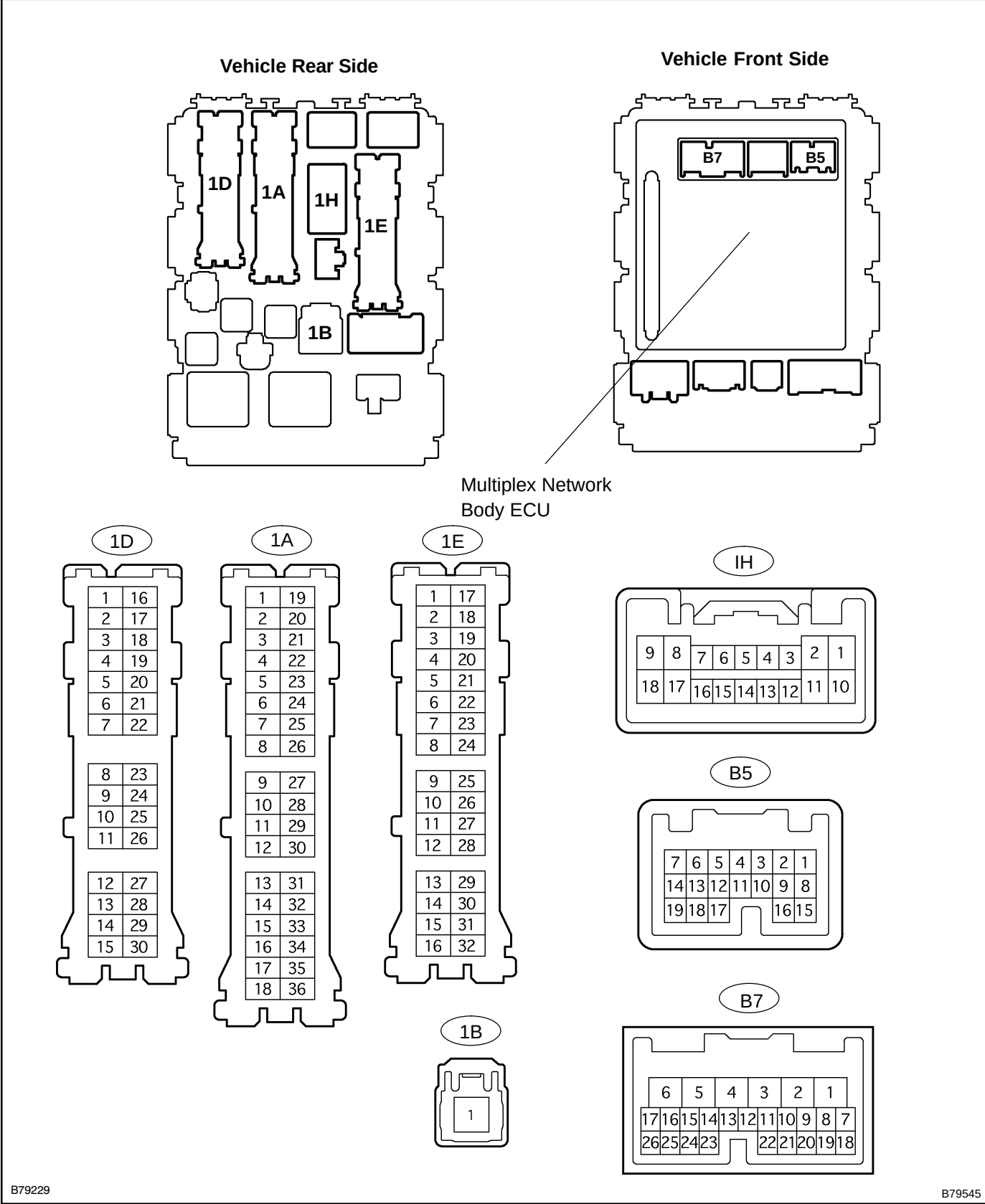
- (a) Disconnect the P17 switch connector.
- (b) Measure the voltage and resistance of each terminal of the wire harness side connector.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
BDR (P17-11) – Body ground	V – Body ground	+B (BDR) power supply	Constant	10 to 14 V
BW (P17-7) – Body ground	W – Body ground	+B (BW) power supply	Power switch 1: OFF → 2: ON (IG)	1: Below 1 V → 2: 10 to 14 V
E (P17-1) – Body ground	W-B – Body ground	Ground	Constant	Below 1 Ω
L (P17-5) – Body ground	LG – Body ground	Door control switch door lock input	Door control switch 1: OFF → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
UL (P17-8) – Body ground	BR – Body ground	Door control switch door unlock input	Door control switch 1: OFF → 2: UNLOCK	1: 10 kΩ or higher → 2: Below 1 Ω

If the result is not as specified, there may be a malfunction on the wire harness side.

2. CHECK INSTRUMENT PANEL JUNCTION BLOCK ASSY (MULTIPLEX NETWORK BODY ECU)



- (a) Disconnect the 1A, 1B, 1D, 1E and 1H J/B connectors.
- (b) Disconnect the B5 and B7 ECU connectors.
- (c) Measure the voltage and resistance between each terminal of the wire harness side connectors.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
ALT _B (1B-1) – Body ground	W – Body ground	+B (power system, generator system) power supply	Constant	10 to 14 V
ECUB (1A-30) – Body ground	R – Body ground	+B (ECUB) power supply	Constant	10 to 14 V
GND (1E-17) – Body ground	W-B – Body ground	Ground	Constant	Below 1 Ω
KSW (1E-26*1/23*2) – Body ground	Y – Body ground	Key unlock warning switch input	1: No key in key slot → 2: Key inserted	1: 10 kΩ or higher → 2: Below 1 Ω
L1 (1H-4) – Body ground	LG – Body ground	Door control switch (master switch and passenger side switch) lock input	Door control switch (master switch or passenger side switch) 1: OFF → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
L1 (1H-13) – Body ground	B – Body ground	Door control switch (master switch and passenger side switch) lock input	Door control switch (master switch or passenger side switch) 1: OFF → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
UL1 (1H-5) – Body ground	BR – Body ground	Door control switch (master switch and passenger side switch) unlock input	Door control switch (master switch or passenger side switch) 1: OFF → 2: UNLOCK	1: 10 kΩ or higher → 2: Below 1 Ω
UL1 (1H-14) – Body ground	V – Body ground	Door control switch (master switch and passenger side switch) unlock input	Door control switch (master switch or passenger side switch) 1: OFF → 2: UNLOCK	1: 10 kΩ or higher → 2: Below 1 Ω
L2 (1H-16) – Body ground	L – Body ground	Driver side door key-linked door lock input	Driver side door key cylinder 1: OFF → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
UL3 (B7-9) – Body ground	P – Body ground	Driver side door key-linked door unlock input	Driver side door key cylinder 1: OFF → 2: UNLOCK	1: 10 kΩ or higher → 2: Below 1 Ω
LSWD (B7-25) – Body ground	LG – Body ground	Driver side door lock position switch input	Driver door 1: UNLOCK → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
LSWP (B7-10) – Body ground	Y – Body ground	Passenger side door lock posi- tion switch input	Passenger door 1: UNLOCK → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
LSWR*3 (B5-10) – Body ground	O – Body ground	Rear doors lock position switch input	Rear doors 1: UNLOCK → 2: LOCK	1: 10 kΩ or higher → 2: Below 1 Ω
DCTY (1D-21) – Body ground	V – Body ground	Driver side courtesy switch input	Driver side door 1: Close → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
PCTY (1D-24) – Body ground	BR – Body ground	Passenger side courtesy switch input	Passenger side door 1: Close → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
RCTY (1D-5) – Body ground	R – Body ground	Rear LH side courtesy switch input	Rear LH side door 1: Close → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
RCTY (1D-20) – Body ground	R – Body ground	Rear RH side courtesy switch input	Rear RH side door 1: Close → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
BCTY (1D-7) – Body ground	R – Body ground	Luggage compartment door courtesy switch input	Luggage compartment door 1: Close → 2: Open	1: 10 kΩ or higher → 2: Below 1 Ω
BDSU (B7-12) – Body ground	P – Body ground	Luggage compartment door opener switch input	Luggage compartment door opener switch 1: OFF → 2: ON	1: 10 kΩ or higher → 2: Below 1 Ω

If the result is not as specified, there may be a malfunction on the wire harness side.

*1: w/ Smart entry system

*2: w/o Smart entry system

*3: w/ Theft deterrent system

(d) Reconnect the 1A, 1B, 1D, 1E and 1H J/B connectors.

(e) Reconnect the B5 and B7 ECU connectors.

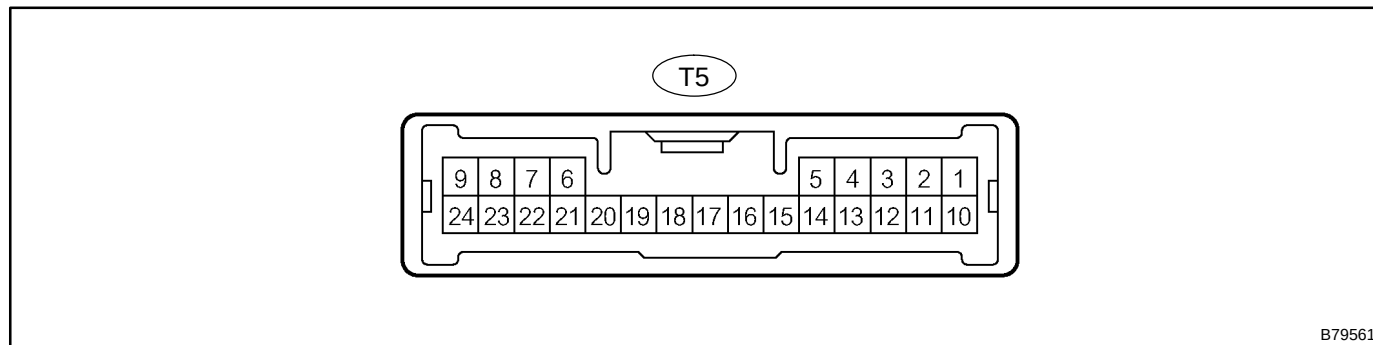
(f) Measure the voltage between each terminal of the connectors and body ground.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
ACT+ (1H-8) – Body ground	Y – Body ground	Door lock motor LOCK drive output (driver door)	Door control switch (master switch or passenger side switch) or driver door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
ACT+ (1D-3) – Body ground	Y – Body ground	Door lock motor LOCK drive output (passenger door)	Door control switch (master switch or passenger side switch) or driver door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
ACT+ (1H-17) – Body ground	Y – Body ground	Door lock motor LOCK drive output (rear LH and RH doors)	Door control switch (master switch or passenger side switch) or driver door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
ACT- (1H-9) – Body ground	G – Body ground	Door lock motor UNLOCK drive output (passenger door and rear doors)	Door control switch (master switch or passenger side switch) or driver door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
ACT- (1D-4) – Body ground	G – Body ground	Door lock motor UNLOCK drive output (rear LH door)	Door control switch (master switch or passenger side switch) or driver door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
ACTD (B7-5) – Body ground	G – Body ground	Door lock motor UNLOCK drive output (driver door)	Door control switch (master switch or passenger side switch) or driver door key cylinder 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V
BACT (B7-1) – Body ground	Y – Body ground	Luggage compartment door lock motor OPEN drive output	Transmitter switch (luggage compartment door) 1: OFF → 2: LOCK → 3: OFF	1: Below 1 V → 2: 10 to 14 V → 3: Below 1 V

If the result is not as specified, the ECU may have a malfunction.

3. CHECK TRANSPONDER KEY ECU ASSY



- (a) Disconnect the T5 ECU connector.
- (b) Measure the voltage and resistance between each terminal of the wire harness side connectors and body ground.

Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
CPUB (T5-3) – Body ground	L – Body ground	+B (CPUB) power supply	Constant	10 to 14 V
IG (T5-4) – Body ground	O – Body ground	Ignition power supply	Power switch 1: OFF → 2: ON (IG)	1: Below 1 V → 2: 10 to 14 V
ACC (T5-12) – Body ground	P – Body ground	Ignition power supply	Power switch 1: OFF → 2: ON (IG)	1: Below 1 V → 2: 10 to 14 V
GND (T5-22) – Body ground	W-B – Body ground	Ground	Constant	Below 1 Ω
CUWS (T5-5) – Body ground	B – Body ground	Halfway switch input	1: No key in key slot → 2: Key inserted	1: 10 kΩ or higher → 2: Below 1 Ω

If the result is not as specified, there may be a malfunction on the wire harness side.